FINAL DRAFT

Fort Ward Park and Museum Area Management Plan

The City of Alexandria, Virginia

October 2014

SECTION II

6. BEST PRACTICES

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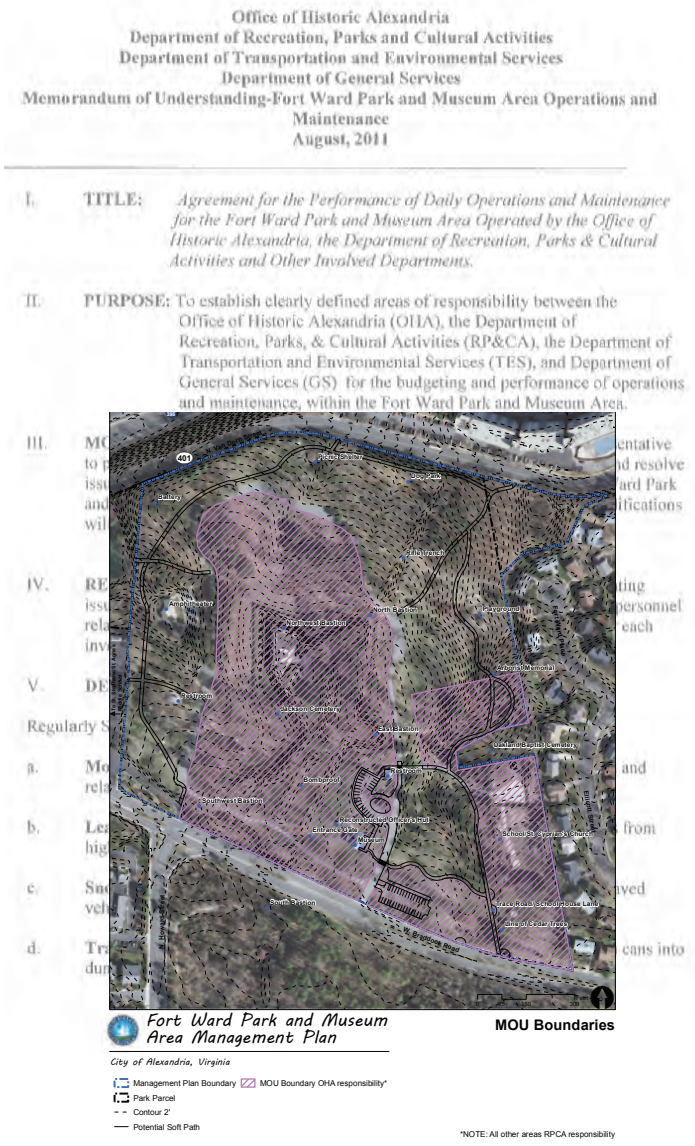
Best Practices: Park Management



Office of Historic Alexandria
Department of Recreation, Parks and Cultural Activities
Department of Transportation and Environmental Services
Department of General Services
Memorandum of Understanding-Fort Ward Park and Museum Area Operations and Maintenance
August, 2011

I. TITLE: *Agreement for the Performance of Daily Operations and Maintenance for the Fort Ward Park and Museum Area Operated by the Office of Historic Alexandria, the Department of Recreation, Parks & Cultural Activities and Other Involved Departments.*

II. PURPOSE: To establish clearly defined areas of responsibility between the Office of Historic Alexandria (OHA), the Department of Recreation, Parks, & Cultural Activities (RP&CA), the Department of Transportation and Environmental Services (TES), and Department of General Services (GS) for the budgeting and performance of operations and maintenance, within the Fort Ward Park and Museum Area.

Action: Review and update the MOU annually

Benefits

- Establish clear lines of responsibility between entities responsible for care of the park; updated annually

Application

- Keep MOU current and responsive to park needs

Methods

- Annually review physical boundaries and task lists for each party; determine which entity is responsible for each activity (T&ES-Stormwater; GS-Buildings; OHA-cultural resource grounds; RPCA-park grounds; OHA and RPCA park programming)
- Annually update park management protocols for turf and meadow management; planting, maintenance and removal; pedestrian paths; installation/location of interpretive exhibits; modifications to vehicular circulation/parking; ground disturbance such as footers for playground equipment, fort structures
- Annually address landscape, trash, snow, site monitoring issues and responsibilities
- *2014 adjustments to the MOU document - expansion of OHA jurisdiction, incorporation of ALL landscape maintenance practices within each geographic area; modification to address rifle trench, adjustment of 'no mow' and leaf placement areas; incorporation of findings from stormwater runoff management study and responsibilities of T&ES*

Monitoring

- Quarterly - Review MOU to review effectiveness in addressing existing and new issues
- Annually - Review effectiveness of the division of responsibilities between OHA Contractor and Parks Operation staff; adjust responsibilities as appropriate; update associated mapping and distribute to all effected parties
- Host annual public meeting to provide an update on the park status and MOU
- Provide an annual Report to Council

Reference to Management Plan

Objective 1.1: Continue the collaborative management process between City agencies as established in the Memorandum of Understanding (MOU)

Strategy 1.1.1: Use the MOU process to assess and monitor progress and identify problems and solutions

Best Practices: Park Recognition

Example:
Annual reports of Central Park Conservancy
http://www.centralparknyc.org/assets/pdfs/annual-reports/AnnualReport_2013.pdf

Action: Communicate significance and importance of Fort Ward Park to a wider audience

Benefits

- Support of the park and museum is commensurate with the value of the resource to the City and to the region; it is clear that Fort Ward Park is recognized as a citywide and regionally important resource

Application

- Expand advocacy and support for Fort Ward Park and Museum

Methods

- Communicate the significance and condition of the park to City leaders, business leaders, preservation and conservation organizations and other civic groups
- Review examples of 'Friends' or other support groups to advocate and to raise supplemental funds
- Reconstitute and expand 'Friends' group with broad base of supporters and members
- Broaden advocacy during the City budget process for the park (tourism development, environmental value, cultural history, recreation site)
- Produce Annual Report on the state of the park—initial 'Annual Report' preparation by City staff, with intent to turn over preparation effort to 'Friends' group within three years

Monitoring

- Annually review effectiveness of Friends Group, measure activities accomplished; funding achieved; volunteer hours logged; challenges remaining

Reference to Management Plan

Objective 1.2: Make Fort Ward Park a priority in the City of Alexandria funding
Strategy 1.2.1: Plan for and communicate the needs and priorities for park management funding (operational and capital) as part of the City budget consistent with the responsible stewardship of a significant historic site and regional park serving the entire city and beyond

Best Practices: Park Funding

Indianapolis Parks Foundation
http://indyparksfoundation.org/site/what_we_do/faq

Action: Link financial needs of park to other City initiatives; broaden 'ask' for funding and support

Benefits

- Identification of common funding needs (operational and capital) among City parks, museums and historic sites; opportunity to leverage at a citywide scale

Application

- Tie park improvements to meeting citywide needs such as trail development, recreation accessibility improvement, tree canopy goals, etc. for funding purposes

Methods

- Tie park improvements to meeting citywide needs such as trail development, recreation accessibility, tree canopy goals, etc.
- Evaluate existing operational and capital funding and identify new sources of funding: bond issues; public/private partnerships; donations; and endowments
- Link preservation of Civil War and African American heritage to citywide preservation goals and objectives, NEH Museum Assessment Program, federal health and wellness goals, etc.

Monitoring

- Annually - Review funding achievements; measure increase of park funding through public and private efforts for maintenance operations and programming

Reference to Management Plan

Objective 1.2: Make Fort Ward Park a priority in the City of Alexandria funding
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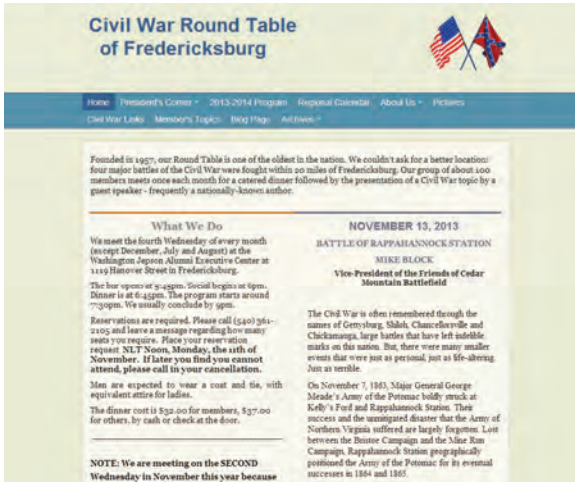
Best Practices: Resource Education Enhancements



Fredericksburg Civil War Roundtable:
http://civilwarroundtablefredericksburg.com

Timucuan Science and History Symposium
(NPS park symposia and roundtable)
http://www.nps.gov/timu/naturescience/symposium.htm

Action: Sponsor educational and research panels and symposia

Benefits

- Expand recognition of the significance of the Civil War and African American heritage found at Fort Ward Park and region

Application

- Hold annual symposia on Fort Ward Park and its ties to the region, with more frequent, informal, year-round panel discussions to make significance of resources more visible to academic and museum professionals, as well as to the general public

Methods

- Develop a list of panel and symposia topics and research agenda
- Host informal panel discussions
- Host symposia annually or every two years addressing cultural complexities found at Fort Ward and the region

Monitoring

- Assess interest via attendance, attendees and topics and evaluate if outreach is succeeding

Reference to Management Plan

Objective 1.3: Support and finance enhancements to park facilities to meet the needs of the broadest array of park users and neighbors

Strategy 1.3.1: Broaden the array of programming and public art in Fort Ward Park

Best Practices: Resource Education Enhancements

Example:
The Friends of Mason District Park 'Spotlight by Starlight' (small scale funding by program and membership)
http://www.fairfaxcounty.gov/parks/performances/spotlight-by-starlight.htm

Action: Expand community-oriented offerings at the amphitheater

Benefits

- Expanded community-oriented programming of the existing amphitheater facility

Application

- Tie scale of event to capacity of park; focus on local community-scaled events

Methods

- Program the amphitheater in conjunction with local community groups as sponsors and performers (movie night, City grant recipient performances, etc.)
- Address the parking demand for events or activities by forming shared use agreements with adjacent schools (public and private)
- Address inadequacy of the existing restroom facilities by provision of temporary, accessible structures while existing facilities are made accessible and upgraded
- Evaluate if corporate or nonprofit underwriting is available

Monitoring

- Assess attendance, survey attendees for interest and programming ideas
- Annually re-evaluate operational costs to RPCA— due to additional staff hours required for operation and clean up

Reference to Management Plan

Objective 1.3: Support and finance enhancements to park facilities to meet the needs of the broadest array of park users and neighbors

Strategy 1.3.1: Broaden the array of programming and public art in Fort Ward Park

Best Practices: Resource Education Enhancements

Steigerwald Lake Wildlife Trail, Washougal, WA
http://columbiariverimages.com/Regions/Places/gibbons_creek_wildlife_art_trail.html

Action: Locate public art in collaboration with the City's Office of Arts' Public Art Master Plan

Benefits

- Opportunity to enhance the park and engage park visitors

Application

- Identify specific projects where public art should be considered as part of design or interpretive program

Methods

- Tie recommendations to those incorporated in the Public Arts Master Plan and the City's Office of the Arts
- Recognize that maintenance requirements for public art installations may differ from standard parks maintenance practices

Monitoring

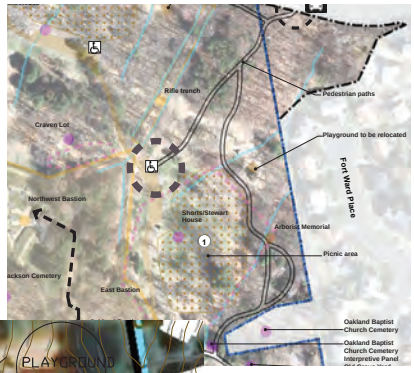
- Annually evaluate maintenance needs

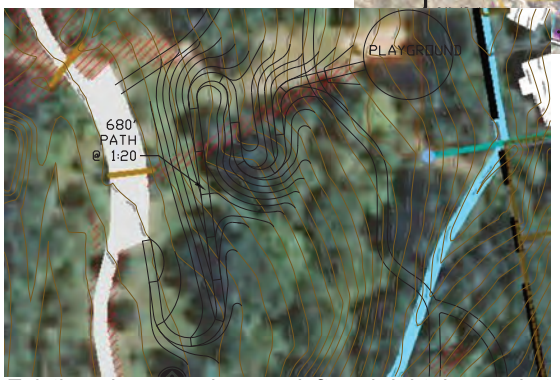
Reference to Management Plan

Objective 1.3: Support and finance enhancements to park facilities to meet the needs of the broadest array of park users and neighbors

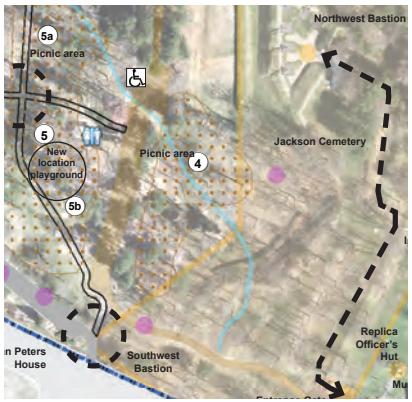
Strategy 1.3.1: Broaden the array of programming and public art in Fort Ward Park

Best Practices: Enhance Park's Accessibility





Existing playground, upper left and right; lower sketch showing extent of grading required to meet ADA standards for path connecting playground and parking adjacent to loop path



Potential playground location on western side of park

Action: Relocate the current playground facility to the western side of the park, making access and equipment accessible

Benefits

- Accessible playground and access
- If moved to western side of park, enhance accessibility to playground and proximity to other supportive services - picnic area, restrooms, amphitheater

Application

- Extent of grading required to provide path that meets ADA Standards between existing playground equipment and parking area is cost-prohibitive
- Relocate playground to western side of park and provide access that meets ADA Standards

Methods

- Sketch to left demonstrates extent of grading required to provide access that meets 2010 ADA or 2009 ORAR standards is costly, relocating facility on more level site within the park will be less costly
- Identify alternative location for the playground near amphitheater and restrooms
- Ensure alternate site has adequate shade
- Ensure playground surfacing, equipment, access and parking meet ADA standards

Monitoring

- Annual replenishment and check of playground surface and access; weekly check on playground equipment
- Annual assessment of compliance with ADA standards

Reference to Management Plan

Objective 1.3: Support and finance enhancements to park facilities to meet the needs of the broadest array of park users and neighbors

Strategy 1.3.2: Enhance park's accessibility and meet ADA standards

Best Practices: Enhance Park's Accessibility

Courtesy of R.J. Thomas Mfg. Co. of Cherokee, Iowa

Excerpt from Standards

1011.2.1 Clear Ground Space:
36 inches (915 mm) on all usable sides of the table measured from the back edge of the benches

1011.4.2 Wheelchair Space. Picnic tables shall provide at least one wheelchair space for each 24 linear feet (7320 mm) of usable table surface perimeter. Wheelchair spaces shall be 30 inches (760 mm) minimum by 48 inches (1220 mm) minimum. Wheelchair spaces shall be positioned for a forward approach to the table and provide knee and toe clearance complying with 306 under the table

For recently published guidelines see: http://www.access-board.gov/guidelines-and-standards/recreation-facilities/outdoor-developed-areas/final-guidelines-for-outdoor-developed-areas/text-of-the-guidelines

Action: Provide accessible park furniture

Benefits

- Access to park facilities for all members of the community

Application

- As site furniture is replaced, ensure that fully accessible equipment is incorporated in replacement

Methods

- Identify features and equipment that must be upgraded to ensure accessibility—drinking fountains, interpretive and orientation features, picnic tables, grills, benches etc.
- Replace aging equipment with accessible equipment

Monitoring

- Annual inspection of park furnishings, documenting compliance with current ADA standards

Reference to Management Plan

Objective 1.3: Support and finance enhancements to park facilities to meet the needs of the broadest array of park users and neighbors

Strategy 1.3.2: Enhance park's accessibility and meet ADA Standards

Best Practices: Enhance Park's Accessibility

http://www.ada.gov/regs2010/2010ADAStandards/Guidance2010ADAstandards.htm

http://www.access-board.gov/guidelines-and-standards/recreation-facilities/outdoor-developed-areas/final-guidelines-for-outdoor-developed-areas/single-file-version-of-rule#text

Action: Make existing paved loop pedestrian path system accessible where possible and sign areas where not possible

Benefits

- More accessible park pedestrian path system

Application

- Provide continuous accessible pedestrian path where physically and financially feasible; sign areas slope (cross slope and running slope based on terrain exceptions clause - see Table 2 in Executive Summary of final rule) prevent path from meeting standards

Methods

- Repave pedestrian walking loop with ADA compliant materials
- Replace existing speed bumps with traffic calming technique (speed cushions with 36" between cushions) that is ADA compliant
- Complete installation of ADA alternatives or replacements to existing stairs and bridges in the park
- Provide signs for areas that are not accessible indicating steep slope

Monitoring

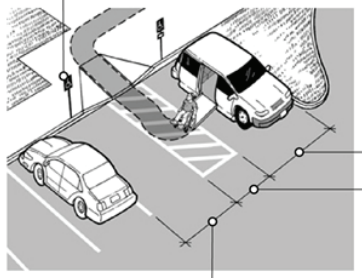
- Annually inspect facilities for compliance with current ADA standards and regulations

Reference to Management Plan

Objective 1.3: Support and finance enhancements to park facilities to meet the needs of the broadest array of park users and neighbors

Strategy 1.3.2: Enhance park's accessibility and meet ADA Standards

Best Practices: Enhance Park's Accessibility



http://www.ada.gov/regs2010/smallbusiness/smallbusprimer2010.htm

Diagram showing 12 spaces required to meet ADA standards, locations shown in red; prepared by Kimley-Horn 2012

Action: Provide accessible parking and pathways for all park and museum features

Benefits

- Provision of accessible parking for park visitors

Application

- Develop accessible parking spaces in areas needed as indicated in Kimley-Horn 2012 reports; 12 spaces shown in diagram on left with additional spaces shown in gravel lot adjacent to athletic fields

Methods

- Provide accessible parking spaces in the park by reconfiguring pavement grade, paving, striping, and location
- Existing gravel lots require surface for ADA parking spaces that meets ADA standards
- Upgrade or provide alternative access paths to site features, where possible incorporate proposed 'soft path' alignment

Monitoring

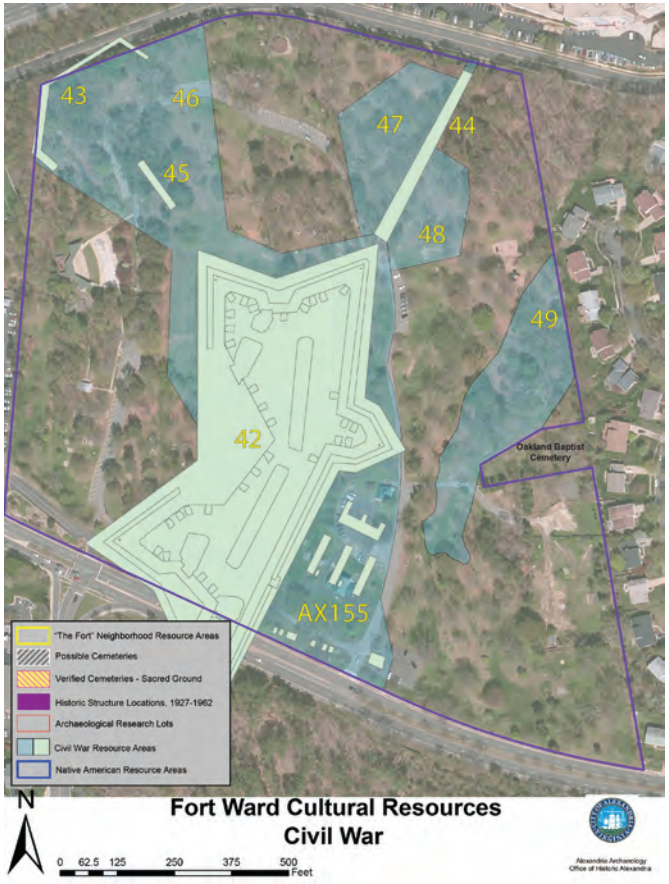
- Annually inspect facilities for compliance with ADA standards and regulations

Reference to Management Plan

Objective 1.3: Support and finance enhancements to park facilities to meet the needs of the broadest array of park users and neighbors

Strategy 1.3.2: Enhance park's accessibility and meet ADA Standards

Best Practices: Ground Disturbance



Action: Mark and protect unrecognized Civil War archaeology

Benefits

- Additional knowledge and understanding of Fort Ward; Civil War Garrison area (barracks), ancillary fort buildings, outer works, covered way, rifle trench, artifact scatters

Application

- Continue to add to the existing site inventory of historic resource investigation

Methods

- Investigate the Civil War Garrison (barracks) area in anticipation of potential parking lot reconfiguration and museum expansion using a site metal detector survey as first step
- Investigate outer works, covered way, rifle trench and artifact scatters using a site metal detector survey as a first step
- Perform a laser survey of the extant earthworks to accurately record the current level of preservation and use this data for a baseline in future monitoring and assessment

Monitoring

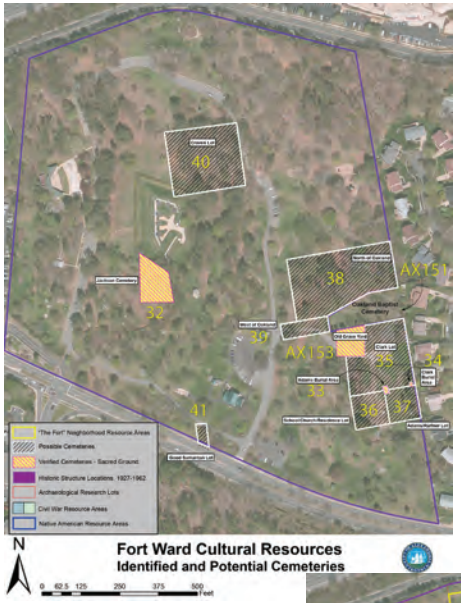
- Annually update mapping and documentation on park resources; aggregating work completed through the year in one accessible document

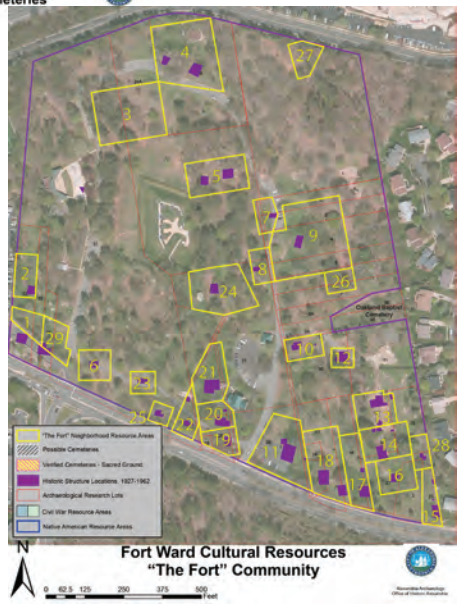
Reference to Management Plan

Objective 2.1: Protect vulnerable park areas from adverse ground disturbing activities

Strategy 2.1.1: Determine level of permitted ground disturbance

Best Practices: Ground Disturbance





Action: Mark and protect "The Fort" community and burial sites

Benefits

- Recognition of "The Fort" community for a larger audience; acknowledgement that the site has been home to different users over time, with varying stories to tell and resources to protect

Application

- Continue to add to the existing site inventory of historic resource investigation; make protection and interpretation of "The Fort" community resources a park priority
- Incorporate the larger story of place within specific periods of history and use the patterns of site buildings and landscape features to assist in storytelling

Methods

- Place appropriately designed enclosure around the perimeter of the Old Grave Yard and Jackson Cemetery; mark graves at the Clark Burial Grounds
- Use proper methods for archaeological investigation of the School House/Church/ Residence site
- Continue to identify the locations of "The Fort" community and establish protection strategies for maintaining above-and below-ground evidence of "The Fort" community

Monitoring

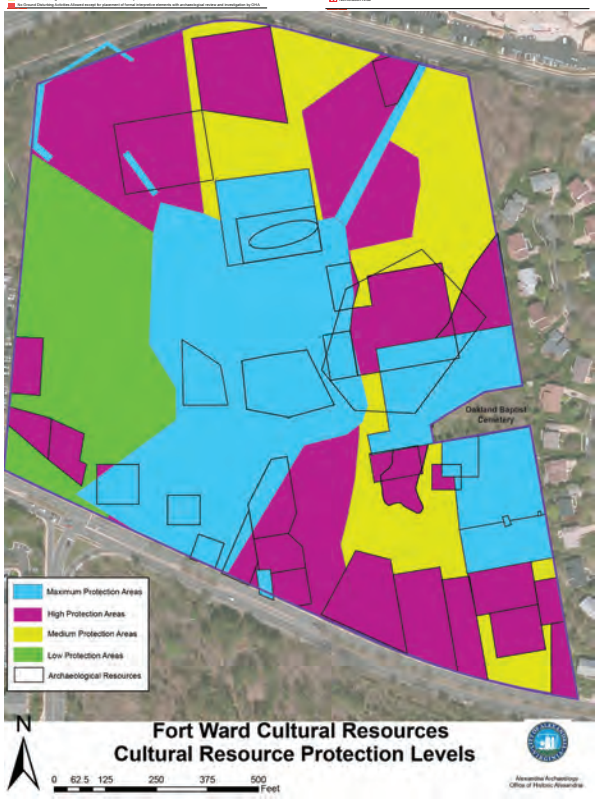
- Annually update mapping and documentation on park resources; aggregating work completed through the year in one accessible document

Reference to Management Plan

Objective 2.1: Protect vulnerable park areas from adverse ground disturbing activities

Strategy 2.1.1: Determine level of permitted ground disturbance

Best Practices: Ground Disturbance



Action: Map areas in conjunction with OHA to identify where ground disturbance may occur unsupervised; where ground disturbance may occur with supervision; and where ground disturbance is NOT allowed

Benefits

- Clear and updated documentation of level of ground disturbance permitted, and under what observance protocol with OHA oversight

Application

- Identify level of cultural resource sensitivity to ground disturbance (initial mapping completed Winter 2014)

Methods

- Keep GIS database current with additional investigation results and updates
- Establish and renew protocols with OHA and RCPA related to notification procedures prior to activity; level of monitoring required, if any; and restoration required to minimize or eliminate erosion potential
- Include protocols in the MOU

Monitoring

- Annually update map indicating level of sensitivity to ground disturbance based on OHA soil profile research and other ongoing park investigations
- Annually update protocols in MOU related to notification and ground disturbing activities
- Annually, in conjunction with MOU renewal, ensure that RPCA Operations receives updated ground disturbance mapping to update resource management related zones: aeration, tree planting, stump grinding, etc.

Reference to Management Plan

Objective 2.1: Protect vulnerable park areas from adverse ground disturbing activities

Strategy 2.1.1: Determine level of permitted ground disturbance

Best Practices: Heal Erosion

Action: Address animal tunneling in earthworks

Benefits

- Reduction or elimination of animal tunnels that threaten the integrity of the earthworks

Application

- Remove tunneling animal and repair damage to earthworks

Methods

- Identify animal and means to address removal or control
- Remove tunneling animal from area
- Repair tunneling damage by filling tunnels with archaeologically sterile soil to avoid compromising the information potential of the earthworks
- Cover tunnel entrance with a degradable erosion control fabric and seed or cover with leaf litter or mulch

Monitoring

- Annually inspect, and if needed remove animal and repair tunneling damage to earthworks

Reference to Management Plan

Objective 2.2: Heal areas of erosion and compacted soils within the park

Strategy 2.2.1: Stabilize surface areas

Best Practices: Heal Erosion

Action: Restore shovel pit testing sites to original grade

Benefits

- Shovel holes stabilized and no longer contributing to park erosion or creating a trip hazard

Application

- Fill and stabilize with planting to match surrounding land cover

Methods

- Monitor shovel pits to repair sinking
- Identify holes to be filled
- Require OHA and contractor to carefully remove land cover prior to shovel test
- When testing is complete, backfill and tamp pit and replace land cover cap

Monitoring

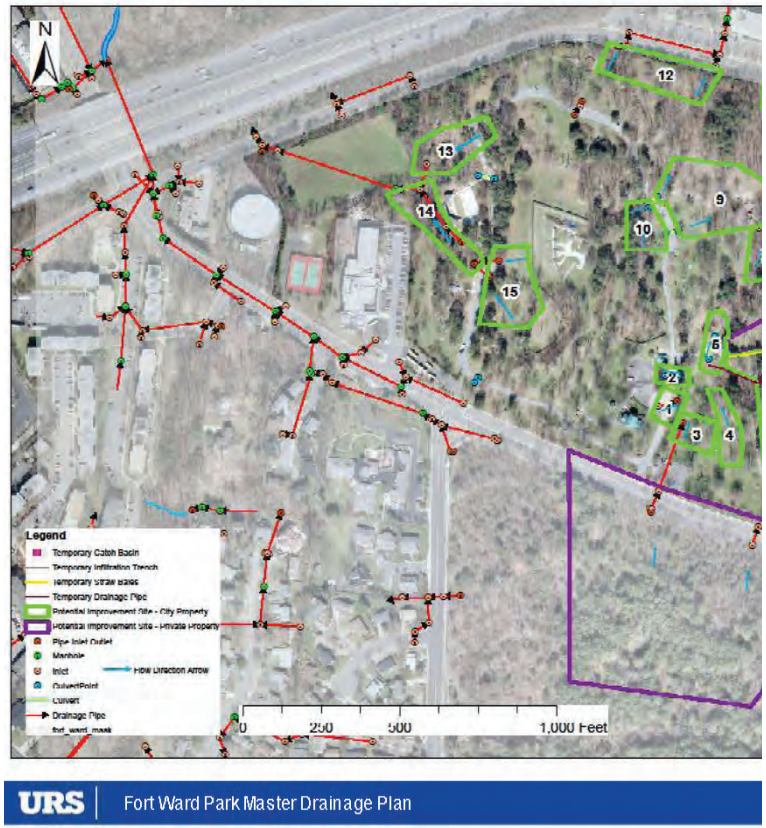
- Repair shovel pits upon completion of testing, use backfill, tamp and replace cover cap for full landscape restoration
- Annually inspect and repair shovel pits until clear that pit has stabilized (5 year period)

Reference to Management Plan

Objective 2.2: Heal areas of erosion and compacted soils within the park

Strategy 2.2.1: Stabilize surface areas

Best Practices: Prevent Stormwater Runoff Erosion



Action: Redirect stormwater and sheet flow away from sensitive cultural and recreational resources through small berms, spreaders and other techniques

Benefits

- Reduction and elimination of stormwater runoff erosion damage to park resources

Application

- Implement Stormwater Management Plan that promotes landform based solutions, avoids cutting in areas of sensitive archaeological resources and promotes groundwater infiltration (see URS Study 2014, Appendix I, for specific recommendations)

Methods

- Where erosion is present, subtly shape landform to redirect sheet flow away from sensitive cultural resources such as burial grounds and cemeteries and recreation resources
- Add protective land cover such as turf or leaf litter
- Use infiltration methods to capture sheet flow that are integrated with park design and character instead of closed systems with piping
- Clean storm drains after leaf fall in autumn and in late spring to remove winter debris

Monitoring

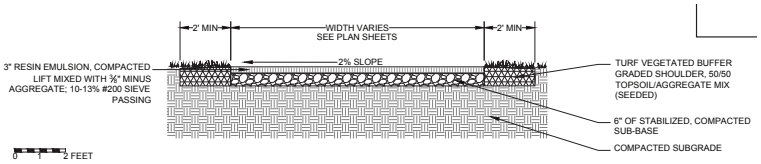
- Annually inspect outfalls (RPCA) and conduits (T&ES) to ensure clear
- Annually inspect park for signs of increasing erosion - if found, add to database and address

Reference to Management Plan

Objective 2.2: Heal areas of erosion and compacted soils within the park

Strategy 2.2.1: Stabilize surface areas

Best Practices: Prevent Stormwater Runoff Erosion



Action: Reinforce eroded edges of paved surfaces

Benefits

- Reduction and elimination of stormwater runoff erosion damage to park resources

Application

- Implement Stormwater Management Plan that promotes landform based solutions, avoids cutting in areas of sensitive archaeological resources and promotes groundwater infiltration (see URS Study 2014, Appendix X, for further guidance)

Methods

- Short-term: Add river cobble stone to temporarily fill eroded areas immediately adjacent to pavement
- Long-term: Redirect storm water away from pavement edge and install reinforced shoulders (50% aggregate/50% soil mix)
- Clean storm drains after leaf fall in autumn and in late spring to remove winter debris

Monitoring

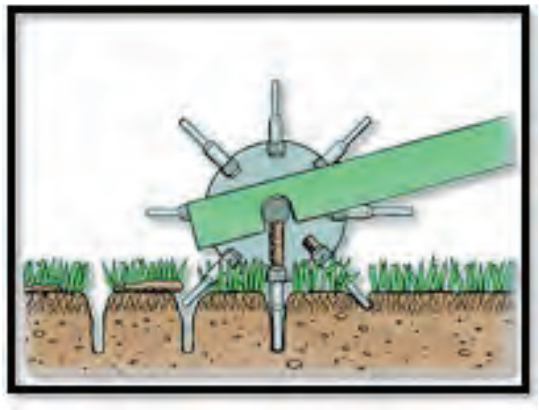
- Annually inspect outfalls (RPCA) and conduits (T&ES) to ensure clear
- Annually inspect path and road edge for signs of erosion

Reference to Management Plan

Objective 2.2: Heal areas of erosion and compacted soils within the park

Strategy 2.2.1: Stabilize surface areas

Best Practices: Heal Stormwater Runoff Erosion



Action: Repair surface erosion damage

Benefits

- Reduction and elimination of stormwater runoff erosion damage to park resources

Application

- Implement Stormwater Management Plan that promotes landform based solutions, avoids cutting in areas of sensitive archaeological resources and promotes groundwater infiltration (see URS Study 2014, Appendix X, for further guidance)

Methods

- Add soil to fill holes, smooth out eroded areas and to reshape ground plan to redirect surface flow from becoming channelized and causing erosion (playground, earthworks, burial sites)
- Aerate, top dress and reseed turf cover where allowed per OHA ground disturbance mapping

Monitoring

- Annually inspect park for signs of erosion

Reference to Management Plan

Objective 2.2: Heal areas of erosion and compacted soils within the park

Strategy 2.2.1: Stabilize surface areas

Best Practices: Heal Erosion Damage from Foot Traffic

Action: Protect earthworks from undesignated foot traffic

Benefits

- Preservation of earthworks

Application

- Block points of informal, undesignated foot access to earthworks, including informal park access along rifle trench

Methods

- Remove informal trail from rifle trench parapet by blocking access
- Identify alternative access point(s) to park from North Van Dorn Street
- Deter visitors from walking on earthworks with sign indicating that rifle trench area is under restoration and is not a foot path; if not effective use visually unobtrusive barrier system
- Cover rifle trench with leaf litter

Monitoring

- Annually monitor earthworks for erosion damage and soil compaction of trench embankment

Reference to Management Plan

Objective 2.2: Heal areas of erosion and compacted soils within the park

Strategy 2.2.1: Stabilize surface areas

Best Practices: Heal Erosion Damage from Foot Traffic

President Andrew Jackson's Family Cemetary

Taken at The Hermitage, home of President Andrew Jackson. Nashville, Tennessee.

http://www.flickr.com/photos/rbglasson/3452567306/

Alexandria National Cemetery fence style adapted from historic style (left) and grave demarcation (right)

Action: Protect burial sites from unintentional recreational use

Benefits

- Respect and preservation of burial sites

Application

- Public notice that cemeteries and burial sites are not active recreation areas

Methods

- Install signs indicating that the immediate site is a burial site or cemetery
- If necessary, install enclosure system using plant materials or fencing that is sympathetic to its historic surroundings at the perimeter of the Old Grave Yard, Clark Burial Grounds and Jackson Cemetery

Monitoring

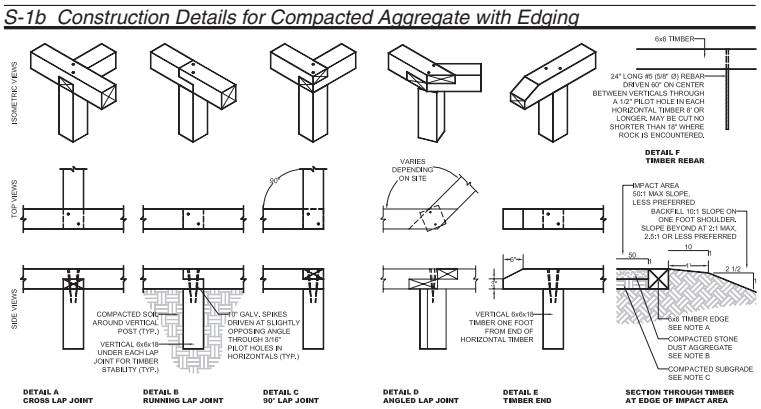
- Monitor site for erosion damage and inappropriate use

Reference to Management Plan

Objective 2.2: Heal areas of erosion and compacted soils within the park

Strategy 2.2.1: Stabilize surface areas

Best Practices: Improve Compacted Soil



Alternative surfacing for picnic grounds surface areas with details for installation

Action: Renovate picnic areas by rotation or partial closure of group area

Benefits

- Renovation and stabilization of heavily used resource—picnic areas have exposed tree roots, no or minimal turf growth and compacted soils from heavy use and drainage runoff

Application

- Remove all or a portion of a group picnic area from use during the growing season for renovation of ground surface

Methods

- Inventory and rank the five existing group picnic areas in terms of damage and need for renovation
- Refer to City of Alexandria Recreation, Parks and Cultural Activities 2013 Picnic Season Summary for utilization of specific picnic areas within Fort Ward Park—in 2013 Area # 3 had the lowest reservation count of the group areas within the park and Area #5 received the third largest number of reservations of the five sites
- Identify a sixth site (potentially split Picnic Area 5 into two separate picnic areas for purposes of rotation due to its large geographic size and number of reservations in 2013 falling in the mid-range for group areas within the park) to serve as a rotation site should an area be so damaged that it must be fully removed from a growing season's use
- Annually remove a portion of a group picnic area from use for renovation during a growing season (or an entire picnic group area if necessary)
- Combine picnic table pads into singular, soft surface in heavily used areas

Monitoring

- Annually monitor group picnic areas for erosion damage and compacted soils

Reference to Management Plan

Objective 2.2: Heal areas of erosion and compacted soils within the park

Strategy 2.2.2: Improve compacted soils

Best Practices: Restore Site of Former Maintenance Yard

Action: Remove former maintenance yard access drive, fencing and gate

Benefits

- Restoration of eastern parkland to park landscape that is a contemplative setting for "The Fort" community burial sites

Application

- Complete archaeological investigations of area within fence prior to removal of fencing and access drive (secure investigation site)
- Remove fencing, gate and access drive to former maintenance yard

Methods

- Coordinate with OHA prior to removal - complete archaeological investigations to ensure appropriate direction is given for ground disturbing activities
- Remove gravel paving from former access road and top dress and reseed if ground disturbance is acceptable to OHA
- If ground disturbance is not acceptable, reshape landscape in area of road to direct storm water away from cemetery and to provide enough soil surface on top of former access drive to support turf growth
- Remove perimeter fencing and gate from former maintenance yard

Monitoring

- Removal of fence and gate following completion of archaeology investigations within fenced area

Reference to Management Plan

Objective 2.2: Heal areas of erosion and compacted soils within the park

Strategy 2.2.3: Relocate or remove uses that conflict with resources

Best Practices: Restore Site of Former Maintenance Yard

Action: Remove former maintenance structures from eastern edge of park

Benefits

- Restoration of eastern parkland to park landscape that is a contemplative setting for "The Fort" community burial sites

Application

- Remove two structures located in the former maintenance yard and relocate, if practical, in a less sensitive area of park (adjacent to athletic fields, for example)

Methods

- Coordinate with OHA prior to removal - ground disturbing activities
- Remove two park structures from current location on eastern edge of park
- Relocate elsewhere in park if possible
- If relocation is not possible, adhere to 'Environmental Action 2030' goals for reducing, reusing and recycling solid waste when considering relocation costs and benefits of the two structures
- Repair site with sterile soil (in archaeological terms), add topsoil, smooth and seed with turf

Monitoring

- Remove structures from site

Reference to Management Plan

Objective 2.2: Heal areas of erosion and compacted soils within the park
Strategy 2.2.3: Relocate or remove uses that conflict with resources

Best Practices: Restore Site of Former Maintenance Yard

Action: Reshape or remove fill at site of former maintenance yard

Benefits

- Restoration of eastern parkland to park landscape that is a contemplative setting for "The Fort" community burial sites

Application

- Reshape or remove some or all of the fill (gravel, mulch, dirt)
- Integrate with storm drainage proposals for protective berms for the Old Grave Yard and Oakland Baptist Cemetery

Methods

- Work with OHA to determine degree of ground disturbance allowed following archaeological investigation of site
- Restore the site to its historic grade by removal of fill—if restoration is not feasible, shape land to reflect general landform and character of surrounding historic landscape
- Repair site with sterile soil (in archaeological terms), add topsoil, smooth and seed with turf

Monitoring

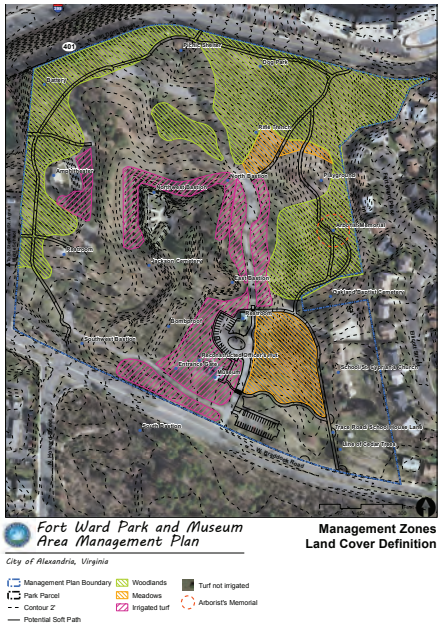
- Restoration of landform

Reference to Management Plan

Objective 2.2: Heal areas of erosion and compacted soils within the park

Strategy 2.2.3: Relocate or remove uses that conflict with resources

Best Practices: Enhance Park's Natural Character



Action: Establish boundaries for turf and meadow management

Benefits

- Turf and meadows that fit within the overall character of the park's landscape

Application

- Establish turf and meadow areas that reflect topography, historic resources and recreational needs

Methods

- Define Management Zones for turf - irrigated, non-irrigated and meadow
- Identify turf areas to serve as flexible recreation areas that are accessible from the pedestrian system and parking areas and do not conflict with cultural resource preservation or interpretive activities
- Identify turf areas to form a protective land cover on historic resources (not active recreation site)
- Identify meadow areas and align them with the shape of the land and its drainage patterns; incorporate "no mow" areas into the overall park aesthetic
- Clearly identify meadow plantings as intentional and productive for wildlife (butterflies, birds, voles, insects)
- Locate wide mowed paths within meadows for walkers and visitor education

Monitoring

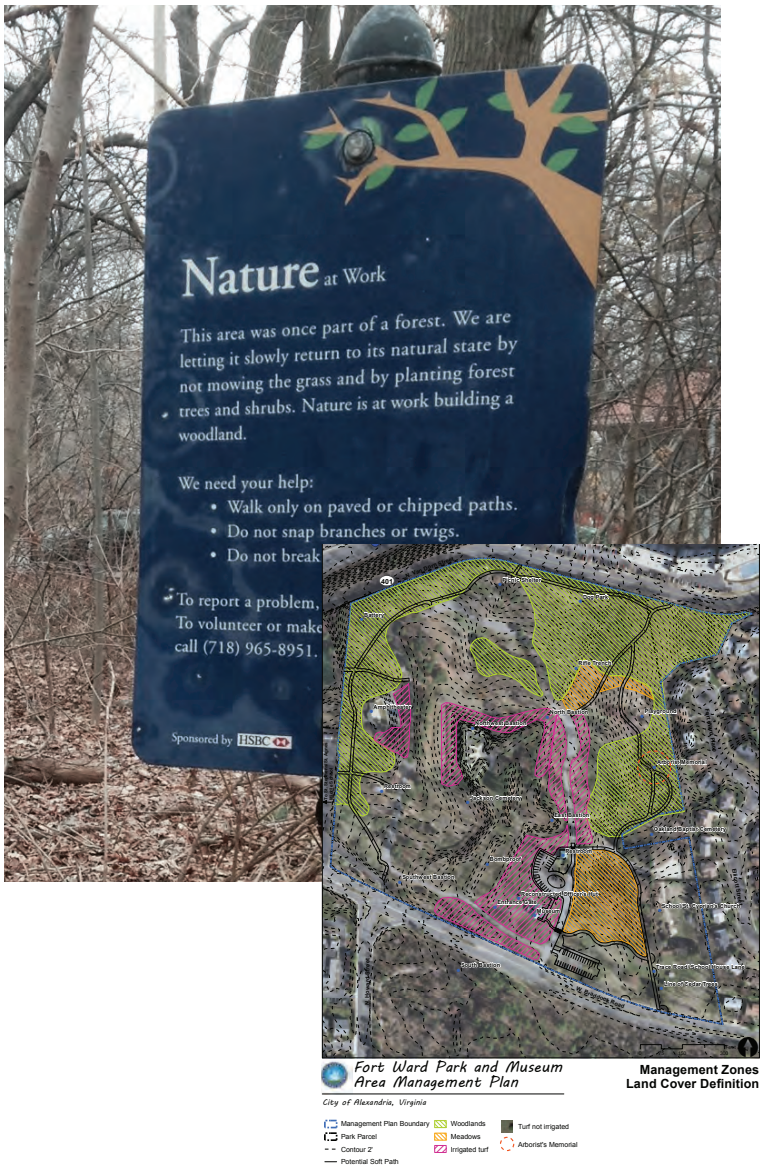
- Monitor turf and meadow growth (see Landscape Cultural Practices for more information)
- Annually evaluate and update map to reflect current conditions

Reference to Management Plan

Objective 2.3: Enhance park's vegetative character and open space

Strategy 2.3.1: Maintain mix of open and wooded landscapes

Best Practices: Enhance Park's Natural Character



Fort Ward Park and Museum Area Management Plan
City of Alexandria, Virginia

Management Zones Land Cover Definition

Management Plan Boundary
Park Parcel
Contour 2'
Potential Soft Path
Woodlands
Meadows
Irrigated turf
Turf not irrigated
Arborist's Memorial

Action: Establish boundaries for areas managed for native woodlands

Benefits

- Reduce amount of grass to be mowed and mowing time
- Reduce competition for plant roots, resulting in healthier trees

Application

- Establish woodland areas

Methods

- Identify the Management Zone landcover type for woodlands
- Inventory the existing composition of designated woodland areas; manage for desired vegetation community and species to be removed (non-native invasive species for example)
- Shape woodland areas irregularly to better fit with natural site conditions; create woodland edges without corners or tight turns to ease mowing
- Sign woodlands to indicate intentional management as woodlands
- Identify and remove remnants from former recreation uses (picnic table slabs, waste can anchors, etc.)

Monitoring

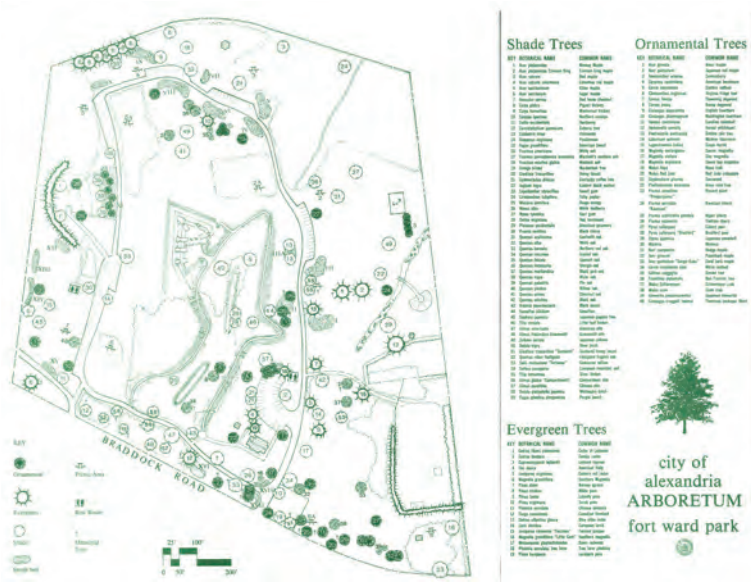
- Monitor woodlands (see Landscape Cultural Practices for more information)
- Annually evaluate and update the map to reflect current conditions

Reference to Management Plan

Objective 2.3: Enhance park's vegetative character and open space

Strategy 2.3.1: Maintain mix of open and wooded landscapes

Best Practices: Enhance Park's Natural Character



Action: Determine role to play in 'City Arboretum' proposal

Benefits

- Clarification of the status of an arboretum - Fort Ward focused, or citywide concept
- If arboretum concept is expanded citywide, opportunities specific to Fort Ward's cultural and natural resources and history interpretation are expanded, allowing the park to better integrate its historic and cultural role and lessening the requirement to provide a full citywide arboretum within the boundaries of Fort Ward Park

Application

- If the park is no longer to serve as the singular arboretum for the city, the park's focus can be placed on ornamental plantings, native woodlands, meadows and historically appropriate plantings in support of the sites and time periods being interpreted within the park

Methods

- Use past plant surveys (mid 1980s and 2001) as a basis for determining what had previously been planted in the park
- Determine the role of Fort Ward Park within proposed the citywide arboretum
- Establish a vision for future vegetation composition in the park (consider native species, historic species - Civil War fort, "The Fort" community, Glenn Dale azalea plantings, etc.)
- Be aware of and consider maintenance requirements for plant materials - fertilizer, irrigation, etc.
- Don't plant any species that are considered to be non-native invasives in Virginia

Monitoring

- Update tree planting species list every five years in coordination with City Arborist

Reference to Management Plan

Objective 2.3: Enhance park's vegetative character and open space

Strategy 2.3.2: Develop and adopt planting approach for Fort Ward Park's natural and cultural landscapes

Best Practices: Enhance Park's Natural Character

Action: Develop and update data set on vegetative resources

Benefits

- Establishment of a baseline of vegetative cover, trends and patterns in the park

Application

- Develop an updated data set documenting park vegetation installed and removed, trends overall and status of key plantings such as Champion or Memorial species

Methods

- Correlate past plant surveys (mid 1980s and 2001) and make digitally accessible for future updates
- Determine existing tree canopy coverage in the park, and the City's goal for Fort Ward Park
- As a baseline, determine the current amount of shade coverage found on the walking paths, playground and picnic areas
- Assess the pattern of tree loss and decline
- Establish target goals (for example, amount of shade cover for picnic areas) based on current status
- Work with Northern Virginia Conservation Trust to develop baseline for vegetation

Operations and Maintenance Requirements

- Update data every five years

Reference to Management Plan

Objective 2.3: Enhance park's vegetative character and open space

Strategy 2.3.2: Develop and adopt planting approach for Fort Ward Park's natural and cultural landscapes

Best Practices: Enhance Park's Natural Character


A Guide to Planting an African-American/African Focused Yard in Miami-Dade County:

An Overview of Landscape Design and Plants Grown in Traditional African-American Yards

John McLaughlin

Miami-Dade Extension Office
18710 SW 288 Street
Homestead, FL 33030

Action: Develop a planting strategy, recommended plant list and planting zones

Benefits

- Clear direction for vegetation management

Application

- Identification of planting character and plant materials to be added to the park

Methods

- Draw on data collection to determine a master planting list for the park and develop a plant list by area, type, etc.
- Use historic aerial photography and oral histories to determine historic planting patterns, identify which to restore or interpret
- Ensure new plantings emphasize positive views and screen others (for example: new tree placement may better explain fort's fire-of-fire; screen utility boxes)
- Incorporate volunteers in plantings (Tree Stewards, Scouts, Garden Club, etc.) and organize a community service group or volunteers to assist with park maintenance - maintaining beds, planting trees, light pruning, etc.
- Follow guidance in City of Alexandria's Landscape Guidelines, April 2007 which lists preferred tree species and undesired non-native invasive plant species

Monitoring

- Revisit the planting strategy every five years

Reference to Management Plan

Objective 2.3: Enhance park's vegetative character and open space

Strategy 2.3.2: Develop and adopt planting approach for Fort Ward Park's natural and cultural landscapes

School House Lane at Fort Ward Park, upper left

An example of research needed at Fort Ward Park, lower right: A Guide to Planting an African American/African Focused Yard

Goal 2 - Park Character: Preserve, Protect, Repair and Maintain Resources ***The City of Alexandria, working with its boards and commissions, volunteers and park neighbors, will work to protect and maintain the nationally significant historic and cultural resources and locally significant natural resources found within Fort Ward Park.***

Best Practices: Research Opportunities

Action: Develop a data set on wildlife (birds, animals, etc.)

Benefits

- Information on park resources

Application

- Develop a data bank of park wildlife

Methods

- Survey and document use of the park by birds and wildlife
- Inventory and assess habitat types; link to potential wildlife populations
- Establish annual bird and wildlife surveys
- Work with Bio-Blitz approach
- Invite Northern Virginia Audubon Society to use the park as a counting location
- Identify desirable habitat enhancements to promote wildlife diversity
- Work with local universities—GMU, UMW, NOVA, etc. to develop data set on wildlife

Monitoring

- Annually monitor wildlife in the park

Reference to Management Plan

Objective 2.3: Enhance park's vegetative character and open space

Strategy 2.3.1: Maintain mix of open and wooded landscapes

Best Practices: City of Alexandria Monthly Maintenance Calendar

March
• Upon break in weather, spring cleaning begins
○ Weed all landscape beds by hand
○ Cultivate planting beds
○ Clean catch basins, and other drainage facilities within in the landscaped area
○ Removing all leaves, sticks and debris from the landscape
• Apply supplemental irrigation to trees and turf as necessary (specifically at Freedman's Cemetery)
• Replenish and grade stone dust on walking paths (material Supplied by the City) maintenance?
• Continue removing litter and debris from the entire landscape area weekly
• Initiate the irrigation system by the 3rd/4th week of March. Start-up includes retrieving the backflow device from Park Operations and installing in the park, blowing off the system, adjusting heads, cleaning filters, nozzles, valve boxes as necessary, programming the irrigation run times, replacing the backup batteries and submitting a formal written report to the City indicating system status and additional repairs if necessary. Additional irrigation service includes weekly scouting from March 15th through November 30th to ensure proper operation of the system. In the event that suspected leaks, breaks or other system abnormalities are observed, the City is to be notified immediately upon discovery.
• Initiate drinking fountains
• Obtain soil samples
• Begin mowing operation based on site conditions. Initial cut, should reduce turf height to 2.75". Follow-up cuts shall be at a height of 3" with a rotary style finishing mower that is equipped with a mulch kit. Mulched clipping may be returned to the turf, but no visible piles or trails of clippings may be left. When excessive clippings are present; Contractor is responsible for their removal and disposal.
• Dethatch and verti-cut lawns when dry
• Apply lime to the turf areas if determined by the soil tests
• Graffiti removal as needed
• Empty litter and recycling receptacles weekly

Action: Reference the City's working list and supplement with Landscape Cultural Practices for Fort Ward Park

Benefits

- Coordination with City maintenance practices

Application

- Park Cultural Practices

Methods

- The City Park Operations monthly task calendar is a starting point for landscape and park maintenance activities
- Supplement with Best Practices in the management plan

Monitoring

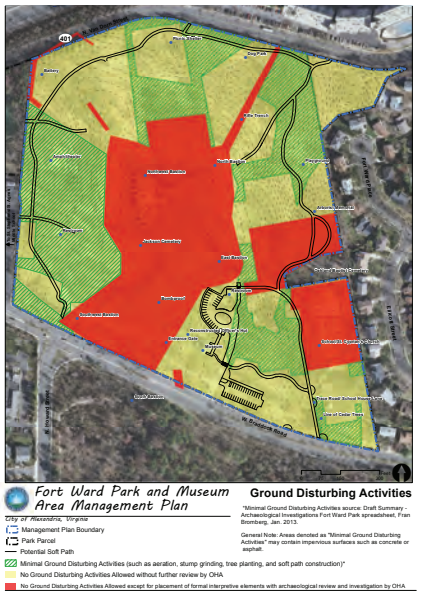
- Coordination between all parties, private contractors and City staff

Reference to Management Plan

Objective 3.1: Tie ongoing City of Alexandria maintenance practices with those specific to the park

Strategy 3.1.1: Coordinate Management Plan recommendations with other City of Alexandria park maintenance efforts

Best Practices: Tree Planting



Action: Plant new trees

Benefits

- Replace trees lost to storm damage and disease (200-300 trees lost in recent years)
- Increase city's canopy coverage

Application

- Trees are being planted in the park

Methods

- Divide the park into planting zones; taking into consideration the level of ground disturbance allowed
- Identify priority zone(s) for plantings (see map above and Plate 22)
- Select tree species from the park planting list (to be developed)
- Plant a minimum of 24 nursery-sized trees annually per the City's standards on an annual basis; select species from list specific to Fort Ward Park
- Plant native seedlings in tubes (volunteer opportunity, locally and regionally) in established woodlands

Monitoring

- Water and care for tree planting through a three year establishment period
- After five years, revisit and update the annual tree planting goal based upon storm replacement needs and overall tree canopy coverage

Reference to Management Plan

Objective 3.2: Contribute towards the City of Alexandria's Tree Canopy Goal of 40%

Strategy 3.2.1: Restore and expand the existing woodlands

Best Practices: Tree Health

Tree Stewards
ARLINGTON · ALEXANDRIA

Action: Prune diseased and dead tree limbs

Benefits

- Tree health improved through judicious pruning

Application

- Prune and remove diseased and dead limbs as required

Methods

- Annually walk park and conduct a tree assessment and tree risk exam
- Assess needs for limb pruning and hazards, paying particular attention to high activity areas such as picnic grounds, paths and playground
- Consider training Tree Stewards to inventory tree maintenance requirements and to develop a prioritized list of maintenance needs

Monitoring

- The City Arborist or designee shall annually walk the park and perform a tree assessment and tree risk exam to assess needs for limb pruning, hazards and paying particular attention to high activity areas such as picnic grounds, paths and the playground

Reference to Management Plan

Objective 3.2: Contribute towards the City of Alexandria's Tree Canopy Goal of 40%

Strategy 3.2.2: Assess tree cover and health

Best Practices: Tree Health

Action: Remove fallen and hazard trees

Benefits

- Removal of dead and 'hazard' trees

Application

- Prune and care for trees within the park appropriately

Methods

- Standardize assessment (biannual) of pruning and tree removal needs—the City Arborist or designee shall annually walk park and perform a tree assessment and tree risk exam; assessing needs for limb pruning, hazards, paying particular attention to high activity areas such as picnic grounds, paths and playgrounds
- Immediately close the area until the hazard tree and its debris are completely removed from the area when located in an actively used area (trails, interpretive areas, picnic grounds, playground)
- Seasonally remove dead trees when located away from use areas; mulch the crown and leave mid- to small-sized branches in place; lay the trunk on the ground and leave it in place on the ground; leave the trunk to a height of 10' -12' as a "snag" for wildlife use, if stable
- Determine if the tree is located in an area acceptable for ground disturbance before grinding the stump; flush cut the stump if disturbance is not allowed (see ground disturbance map or consult OHA)

Monitoring

- The City Arborist or designee shall annually walk the park and conduct a tree assessment and tree risk exam; assess needs for limb pruning, hazards and tree removal, paying particular attention to high activity areas such as adjacent to picnic areas, paths and playground

Reference to Management Plan

Objective 3.2: Contribute towards the City of Alexandria's Tree Canopy Goal of 40%

Strategy 3.2.2: Assess tree cover and health

Best Practices: Tree Maintenance

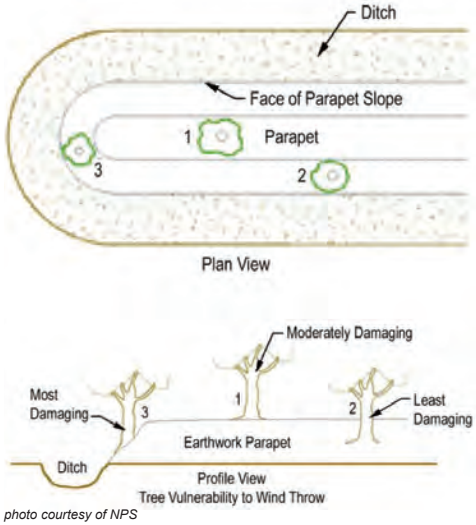


photo courtesy of NPS

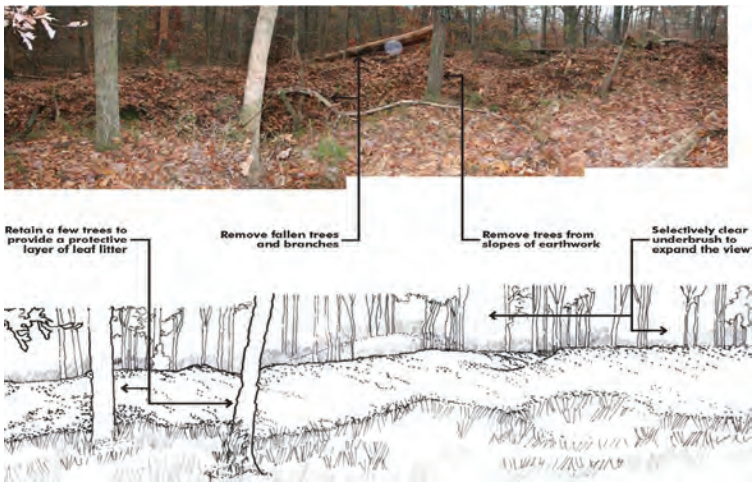


photo courtesy of JMA

Action: Assess tree growth on earthworks

Benefits

- Reduce damage to earthworks by limb drop or tree throw; encourage selective woodland coverage of earthworks, as a layer of leaf litter provides the best protective land cover

Application

- Assess tree growth and identify trees to be removed due to potential windthrow or damage to earthworks

Methods

- Inventory and record species, height, diameter at breast height, root system type—shallow rooted, tap root, etc.—as may effect windthrow potential, age, structural integrity and specific location of trees growing on or adjacent to the earthworks
- Identify and map areas where sapling and tree growth is acceptable to remain (except hazardous trees) on earthworks and where trees should be removed

Monitoring

- Every three years update inventory annually and evaluate/monitor trees growing on earthworks for windthrow potential, structural integrity and hazard tree

Reference to Management Plan

Objective 3.2: Contribute towards the City of Alexandria's Tree Canopy Goal of 40%

Strategy 3.2.3: Perform tree maintenance

Best Practices: Tree Maintenance

Action: Remove standing stumps in the park

Benefits

- Remove unsightly and tripping hazard tree stumps in the park

Application

- Remove by flush cutting trees in areas where ground disturbance is not allowed; grind the stump if the tree is located where ground disturbance is acceptable to OHA (may require OHA on-site supervision)

Methods

- Ensure that no stumps are left standing in the park, unless specifically identified as such for wildlife habitat and located in a designated woodland area
- Flush cut stumps where the ground is not to be disturbed
- Prior to grinding a stump, contact OHA to determine if on-site supervision is required or if it is located in area designated by OHA as acceptable for ground disturbance
- Match equipment to constraints on access

Monitoring

- Annually update the map with “no ground disturbance” areas noted

Reference to Management Plan

Objective 3.2: Contribute towards the City of Alexandria’s Tree Canopy Goal of 40%

Strategy 3.2.3: Perform tree maintenance

Best Practices: Mulch Leaf Litter On-site

Fort Ward Park and Museum Area Management Plan

City of Alexandria, Virginia

Leaf Litter Disposal Managment Areas

- Management Plan Boundary
- Park Parcel
- Contour 2'
- Potential Soft Path
- Area 1 - Leaf litter to remain in place
- Area 2 - Leaf litter to be vacuumed except for final fall and then mulch mowed
- Area 3 - Leaf litter to be mowed, mulched and left in place

Action: Identify appropriate treatment of leaf litter

Benefits

- Reduce maintenance needs and naturally replenish nutrients

Application

- Map indicates areas where leaves and minor tree debris are to remain in place; where leaves are to be removed until final clearance when they are to be mulch-mowed; and areas where tree cover is light enough that leaves may be mulch-mowed and left in place throughout the leaf removal season

Methods

- Mulch-mow in place leaves in areas as shown; remove leaves early in season in grassed areas with heavy tree cover

Monitoring

- Annually update the map

Reference to Management Plan

Objective 3.2: Contribute towards the City of Alexandria's Tree Canopy Goal of 40%

Strategy 3.2.3: Perform tree maintenance

Best Practices: Shrub Planting

Action: Plant new shrubs

Benefits

- Restoration and enhancement of the park's history as a showplace and healthy natural habitat

Application

- Replace and replenish shrubs in existing irrigated shrub beds and add shrub plantings throughout park

Methods

- Identify areas that need additional shrub plantings; limit new plantings that require irrigation to areas that are currently irrigated
- Plant native shrubs as understory in woodland areas (non irrigated areas)
- Expand and replenish existing shrub beds in existing irrigated areas
- Add shrubs to the earthworks area to redirect foot traffic and to protect earthworks from trampling
- Add shrub plantings to interpretive areas
- Supplemental watering may be required to establish plantings; seasonal weeding of shrub beds; mulch beds as needed (annually) to maintain a 2"-3" cover

Monitoring

- Survey shrub growth every three years to identify needs for additional planting

Reference to Management Plan

Objective 3.3: Restore shrub layer

Strategy 3.3.1: Restore shrub layer in high visitor use areas and at woodland edges

Best Practices: Shrub Maintenance

Action: Maintain existing shrubs

Benefits

- Enhance health and attractiveness of existing plantings

Application

- Prune as needed; remove shrubs under direction of OHA unless in areas cleared for ground disturbance by OHA

Methods

- Annually prune shrubs during the appropriate season (i.e. azaleas to be pruned in late spring after flowering but before buds set for the following year's bloom)
- Do not shear shrubs, with the exception of hedges associated specifically with the earthworks
- Involve Alexandria/Arlington Tree Stewards as volunteers
- Remove shrubs under guidance from OHA and ground disturbance mapping

Monitoring

- Annually assess pruning needs

Reference to Management Plan

Objective 3.3: Restore shrub layer

Strategy 3.3.2: Perform shrub maintenance

Best Practices: Shrub Maintenance

Action: Maintain shrub beds

Benefits

- Enhance health and attractiveness of existing plantings by removing weeds, vines and overgrowth from existing shrub beds

Application

- Top dress and clean existing shrub beds seasonally (spring, summer, fall)
- Clean existing shrub beds seasonally (spring, summer, fall)

Methods

- Annually refresh or replace mulch (leaf litter or shredded hardwood) to 2” -3” deep in formal shrub beds
- Re-establish existing irrigated shrub bed edges
- Top dress and clean shrub beds seasonally of weeds and debris 3 times per year (spring, summer, fall)
- Cultivate and add compost in the spring to established shrub beds
- Remove non-native invasive plant materials, vines and weeds
- Test soil annually; apply fertilizer as determined by soil testing
- Work with community service group or volunteers (trained by RCPA staff) to maintain beds

Monitoring

- Review existing shrub bed health and location every three years

Reference to Management Plan

Objective 3.3: Restore shrub layer

Strategy 3.3.2: Perform shrub maintenance

Best Practices: Removal of Undesired Vegetation

photo courtesy of Oculus

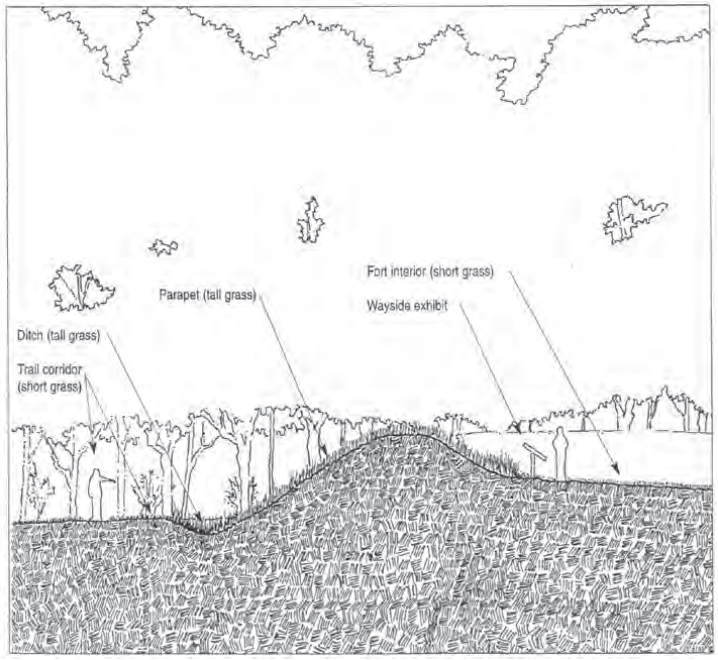


photo courtesy of WMDC

Action: Remove inappropriate vegetation from earthworks

Benefits

- Protect earthworks from damage by erosion, trampling, tree windthrow and unwanted plant materials; consider using taller, native warm-season grass for the fort parapet to reduce mowing and to discourage visitors from climbing on earthworks
- Ensure visibility of earthworks through use appropriate groundcovers - scrubby growth limits the visual accessibility and reduces interpretive value; frame views for interpretation

Application

- Replace inappropriate land cover with native grasses or leaf litter to ensure complete coverage

Methods

- Inventory and map earthworks to show soil type and conditions; light levels; current groundcover
- Use techniques to remove undesirable growth that do not damage the earthworks
- Determine and map most appropriate coverage types: turf, meadow, non-native invasive groundcover or leaf litter
- Replace undesired vegetation with Virginia Wild Rye or native warm season grasses or turf
- Adhere to NPS preservation standards for care of historic earthworks
- Ensure that earthworks are covered with turf or tree and leaf litter as mulch; transform one wing/bastion annually and then monitor to retain desired coverage

Monitoring

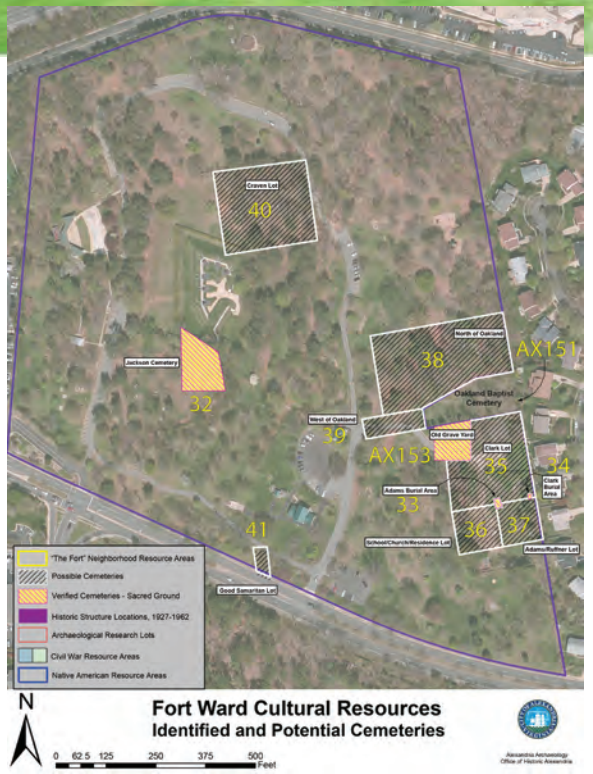
- Assess sites annually for undesired growth

Reference to Management Plan

Objective 3.4: Remove inappropriate vegetative growth

Strategy 3.4.1: Remove non-native invasive groundcovers and undesired shrubs and saplings from earthworks and burial grounds

Best Practices: Removal of Undesired Vegetation



Action: Remove inappropriate vegetation from burial grounds and cemeteries

Benefits

- Respectful treatment of burial grounds and cemeteries

Application

- Appropriate land cover for burial grounds and cemeteries - respectful and potential barrier to trespassing and play activities

Methods

- Remove non-native invasive plant materials such as English ivy from Jackson Cemetery and nearby earthworks
- Given the depth of the burials, there is no possibility of disturbance to burials by aeration at the Jackson Cemetery
- Replant with turf or meadow grasses as a sustainable land cover (consider use of meadow as a perimeter marking to dissuade park visitors from using a cemetery as a play area)
- Mow the meadow perimeter annually; mow turf as necessary; aerate annually to encourage healthy turf growth

Monitoring

- Assess sites annually for undesired growth

Reference to Management Plan

Objective 3.4: Remove inappropriate vegetative growth

Strategy 3.4.1: Remove non-native invasive groundcovers and undesired shrubs and saplings from earthworks and burial grounds

Best Practices: Non-native Invasive Plant Growth Removal

Action: Remove non-native invasive plants

Benefits

- Maintain park's natural ecosystem to support and benefit wildlife, insects and plants

Application

- Remove a targeted amount of non-native invasive plants annually

Methods

- Conduct an initial park survey and update every three years to identify existing non-native invasive species and the extent of the problem
- Establish priorities for removal
- Avoid removal where ground disturbance is prohibited; remove under oversight of OHA in other areas
- Use hand removal and environmentally-sensitive, appropriately applied herbicides; dispose of debris properly
- Employ preventive measures to reduce introduction of new non-native invasive species - monitor areas subject to ground disturbance (seed bank), inspect new plants prior to installation, clean maintenance equipment prior to use in the park

Monitoring

- Assess non-native invasive species growth every three years

Reference to Management Plan

Objective 3.4: Remove inappropriate vegetative growth

Strategy 3.4.2: Minimize non-native invasive growth

Best Practices: Healthy Turf Growth

Fort Ward Park and Museum Area Management Plan

Aeration

City of Alexandria, Virginia

- Management Plan Boundary
- Park Parcel
- Contour 2'
- No Aeration Area*

*NOTE: "No Aeration Areas" were identified in a sketch by Fran Bromberg 01/10/14 via email. No Aeration Areas at the battery would have to be surveyed for a more accurate location. Aeration is not allowed on the elevated areas of the fort, rifle trench, battery, nor the old grave yard, Adams burial area or Clark burial area.

Action: Core aerate soils to address compaction

Benefits

- Healthy soils contribute to healthy turf; healthy turf reduces erosion and resource damage; improves water infiltration

Application

- Core aerate all turf areas within park where appropriate to renovate heavily compacted soils
- Aerate, add organic matter to reseed turf areas if area receives adequate sunlight
- Cover with leaf litter as a mulch layer if turf growth is unlikely due to heavy shade cover

Methods

- Refer to map for areas where aeration may occur without OHA direct supervision; where OHA must be on site to supervise aeration; and where aeration may not occur under any scenario
- Aerate turf two times per year (spring and fall) as regular maintenance; where soils are particularly compacted, aerate four times a year for the first three years

Monitoring

- Update aeration mapping (initial map - 2014) annually based on OHA investigations and ground disturbance mapping
- Annually assess turf for improvement in surface water infiltration and turf health

Reference to Management Plan

Objective 3.5: Establish attractive and sturdy turf

Strategy 3.5.1: Actively manage turf growth

Best Practices: Healthy Turf Growth

Action: Overseed and top dress turf

Benefits

- Healthy turf reduces erosion and resource damage

Application

- Overseed and top dress existing turf areas

Methods

- Apply pre-emergent herbicide, followed by overseeding and top dressing with compost
- Identify areas where overseeding is appropriate and no additional preparation work is required (humus or other organic matter, new topsoil, etc.)
- Identify areas where rehabilitation is needed - humus, organic matter, topsoil
- De-thatch annually
- Supplement with fertilizer in fall if the need is demonstrated by soil tests
- Overseed and top dress annually (if needed) following aeration if over 40% of existing turf is sparse
- Test soil annually in five areas of the park: near West Braddock Road; near the amphitheater; near the picnic shelter; near the playground and in the fort area

Monitoring

- Test soil annually in five areas of the park: near West Braddock Road; near the amphitheater; near the picnic shelter; near the playground and in the fort area

Reference to Management Plan

Objective 3.5: Establish attractive and sturdy turf

Strategy 3.5.1: Actively manage turf growth

Best Practices: Healthy Turf Growth

Action: Define mowing height

Benefits

- Park looks 'whole' with consistent mowing height for all turf areas

Application

- Common turf cultural practices to be adhered to by all entities caring for turf within the park

Methods

- Establish a consistent mow cycle and mowing height
- Modify mowing practices to ensure that no damage is made to earthworks (inadvertent gauging and soil compaction)
- Use a rotary style finishing mower equipped with a mulch kit
- Initial spring mow to 2.75" turf height
- Mow turf to maintain 3" height during summer season
- Adjust turf height to 2.5" in height in fall

Monitoring

- Assess height seasonally

Reference to Management Plan

Objective 3.5: Establish attractive and sturdy turf

Strategy 3.5.1: Actively manage turf growth

Best Practices: Healthy Meadow Growth

Action: Remove invasives and woody plant materials from meadows

Benefits

- Meadows add aesthetic, ecological and environmental value to the park landscape

Application

- Meadows mowed or bush-hogged to remove invasive and woody species
- Avoid bush-hogging during nesting season

Methods

- Mow meadow once a year between December and March to avoid the nesting period and to remove standing material; encourage seed germination and encourage vigorous plant growth; set the mower deck as low to the ground as possible without gouging the soil surface, removing everything with the mow
- Alternatively, bush hog the meadow every three to five years to remove woody growth between April and July; apply more frequently if woody growth is heavy

Monitoring

- Assess woody and invasive species growth annually

Reference to Management Plan

Objective 3.5: Establish attractive and sturdy turf

Strategy 3.5.2: Actively manage meadow growth

Best Practices: Equipment Operation and Use

Action: Train all personnel on the use of equipment to minimize damage to resources

Benefits

- Minimize damage to the park from equipment operation

Application

- Train employees in proper equipment operation to avoid weed whacker and potential damage to tree trunks; heavy vehicular equipment (ranger carts, trash vehicles) can compact soil and damage earthworks and other cultural resources; erosion occurs where equipment runs off a path edge

Methods

- Identify equipment prone to causing soil compaction or tree damage
- Identify areas that vehicular traffic should not enter
- Identify travel corridors if access is needed off of paved surfaces
- Train operators annually on equipment 'safe' routes and use

Monitoring

- Assess damage caused by equipment operation annually

Reference to Management Plan

Objective 3.6: Train maintenance personnel on appropriate practices for historic and archaeological sites and natural areas

Strategy 3.6.1: Use the MOU park maintenance zone areas to identify level of training required for maintenance personnel

Best Practices: Certifications

Action: Provide training and certification for maintenance personnel at the park

Benefits

- Educate operators on the importance and fragility of cultural resources found in the park

Application

- Train employees on identification of Fort Ward Park's historic and archaeological resources, tree and shrub care, turf management, proper pruning techniques and non-native invasive species removal techniques

Methods

- Train key personnel at the park for special duties unique to Fort Ward and its stewardship of cultural resources
- Train key personnel at the park on landscape cultural practices as they relate to a historically rich and resource-fragile park, where ground disturbing activities are of great concern
- Train employees on identification of Fort Ward Park's historic and archaeological resources; tree and shrub care, turf management, proper pruning techniques and non-native invasive species removal techniques

Monitoring

- Assess effectiveness of operator training annually

Reference to Management Plan

Objective 3.6: Train maintenance personnel on appropriate practices for historic and archaeological sites and natural areas

Strategy 3.6.1: Use the MOU park maintenance zone areas to identify level of training required for maintenance personnel

- INTERPRETIVE RECOMMENDATIONS AND BEST PRACTICES ARE INCLUDED IN Section II.4
- ADDITIONAL WORK MUST BE DONE TO DEVELOP THE FRAMEWORK, WHICH IS A PORTION OF THIS MANAGEMENT PLAN, INTO AN ACTUAL INTERPRETATION PLAN
- THE INTERPRETATION PLAN, PRIORITIES AND PROBABLE ESTIMATE OF COST IS NOT A PART OF THIS MANAGEMENT PLAN'S WORK PRODUCT
- BEST PRACTICES WILL BE GENERATED TO REFLECT GOAL 4 UNDER A SEPARATE WORK PRODUCT

Best Practices: Circulation

Surfacing options:
Context Sensitive Roadway Surfacing Selection Guide Publication No. FHWA-CFL/TD-05-004 and Roadway Surfacing Options Photo Album Publication No. FHWA-CFL/TD-05-004a August 2005

Action: Make pedestrian use the priority use for paved loop path and mark mileage distances on or near pavement

Benefits

- A safe environment for park users

Application

- Repair the surface of the shared pedestrian/vehicle loop drive with materials that are pedestrian friendly in color and texture; consider the use of permeable material and avoid the use of asphalt to reduce its appearance as 'road'

Methods

- Make pedestrian circulation the priority on the internal park paved loop path; use a surface treatment alternative to the current vehicular pavement styled asphalt material
- Change the sign to give pedestrian use priority over vehicular use (the current sign tells pedestrians to yield to vehicular traffic)
- Mark distances for pedestrian walks

Monitoring

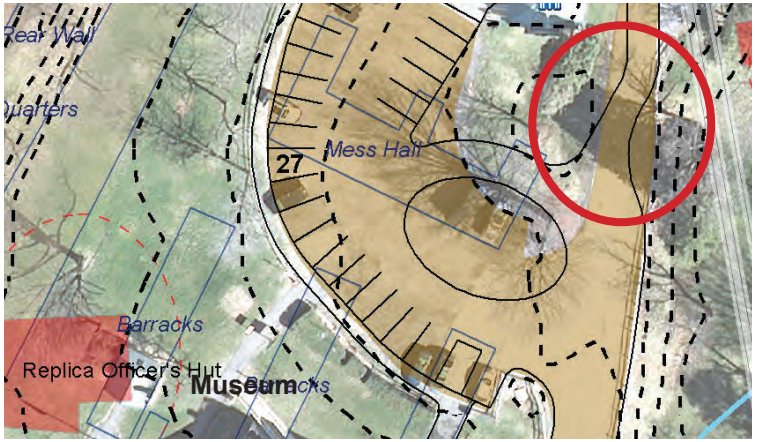
- Inspect pavement annually and identify areas to be repaired or replaced

Reference to Management Plan

Objective 5.1: Clarify and enhance park circulation and parking
Strategy 5.1.1: Improve pedestrian circulation and safety

Best Practices: Circulation

Introduction of sharp curve at loop path with alternate paving material: existing - upper photo; curve and alternative pavement- lower photo; location indicated by red circle below



Action: Introduce a sharp curve at the junction of the paved loop path

Benefits

- A safe environment for park users

Application

- Realign a section of pavement where the paved loop path changes from one-way to two-way at the time of the next repaving project (2015)

Methods

- Adjust the pavement alignment to clearly indicate that the priority is for pedestrian use; vehicular access is only as route to recreation facilities and should be more 'driveway-like' in appearance
- Realign pavement at next repaving

Monitoring

- Assess effectiveness of reconfiguration

Reference to Management Plan

Objective 5.1: Clarify and enhance park circulation and parking

Strategy 5.1.1: Improve pedestrian circulation and safety

Best Practices: Circulation

Action: Develop a pedestrian network of soft paths

Benefits

- A safe environment for park users

Application

- Develop overtime a system of 'soft' walking paths throughout the park, linking interpretive opportunities and providing pedestrian only walking trails

Methods

- Identify a secondary pedestrian path alignment along the park's perimeter
- Connect a 'soft path' to park entrances and features
- Ensure that path meets ADA standards, when possible

Monitoring

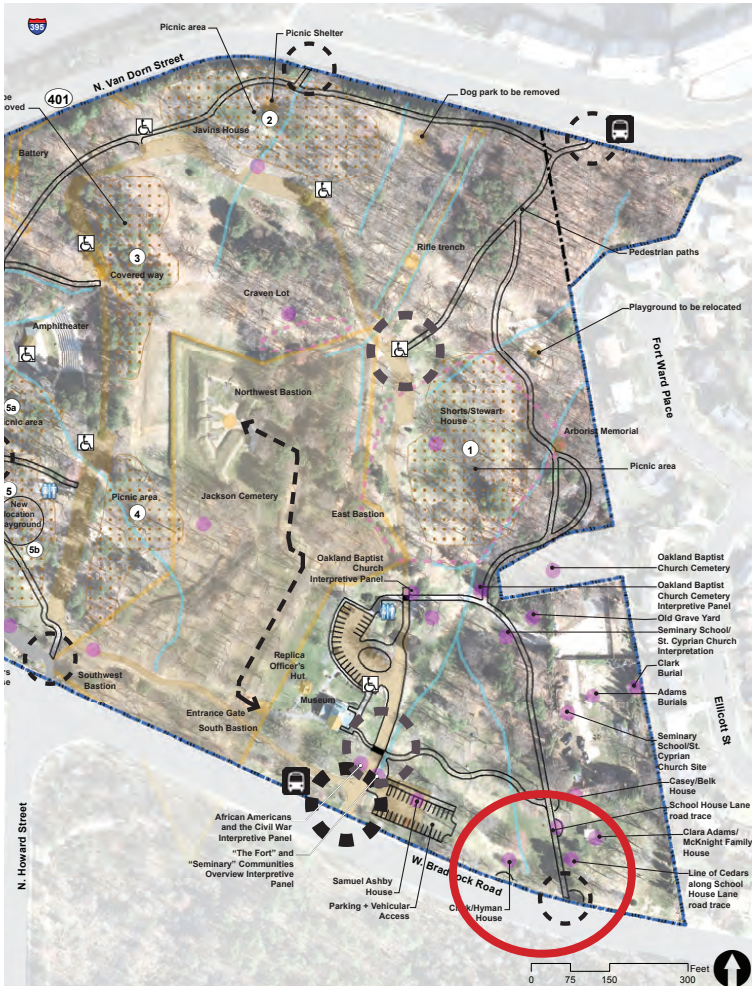
- Assess integrity of path surfacing and path edges for safety concerns every six months

Reference to Management Plan

Objective 5.1: Clarify and enhance park circulation and parking

Strategy 5.1.1: Improve pedestrian circulation and safety

Best Practices: Circulation



Location indicated by red circle

Action: Connect the existing park path to the West Braddock Road sidewalk

Benefits

- A safe environment for park access and park users

Application

- Increase connectivity in the pedestrian system by connecting the street sidewalk to the internal park path system

Methods

- Install a sidewalk segment to connect the park with West Braddock Road - public sidewalks along the park's perimeter do not connect with the internal park pedestrian system

Monitoring

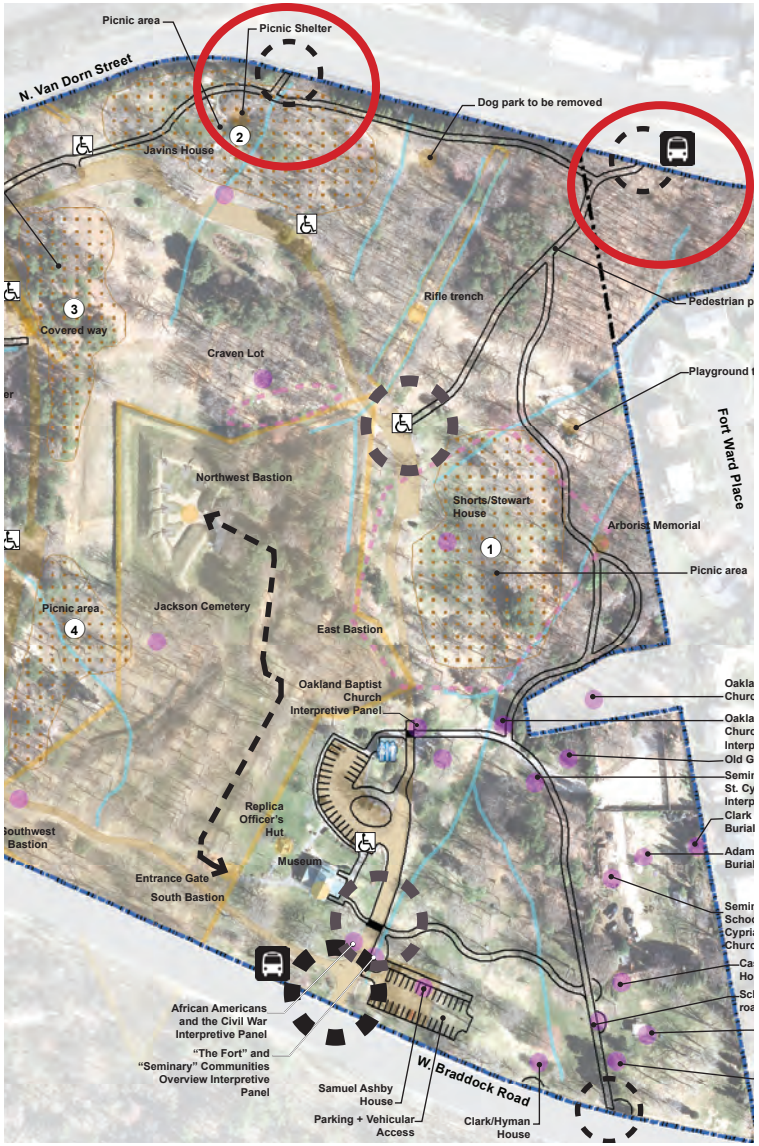
- Annually survey sidewalk surface and condition

Reference to Management Plan

Objective 5.1: Clarify and enhance park circulation and parking

Strategy 5.1.1: Improve pedestrian circulation and safety

Best Practices: Circulation



Locations indicated by red circles

Action: Clearly mark and develop two park access points from North Van Dorn Street

Benefits

- A safe environment for park access and park users
- Protection of cultural and natural resources from inadvertent damage by park users

Application

- Increase connectivity in the pedestrian system by connecting the street sidewalk to the internal park path system

Methods

- Install two entry points to connect the park with North Van Dorn Street—public sidewalks along the park's perimeter do not connect with the internal park pedestrian system
- Develop two formal access points to the park from North Van Dorn Street; one near the bus stop east of the rifle trench and the second near the picnic shelter
- Close 'goat herd' paths
- Block access to the rifle trench by installing a 'stile'/stair over it at the North Van Dorn Street side of the park

Monitoring

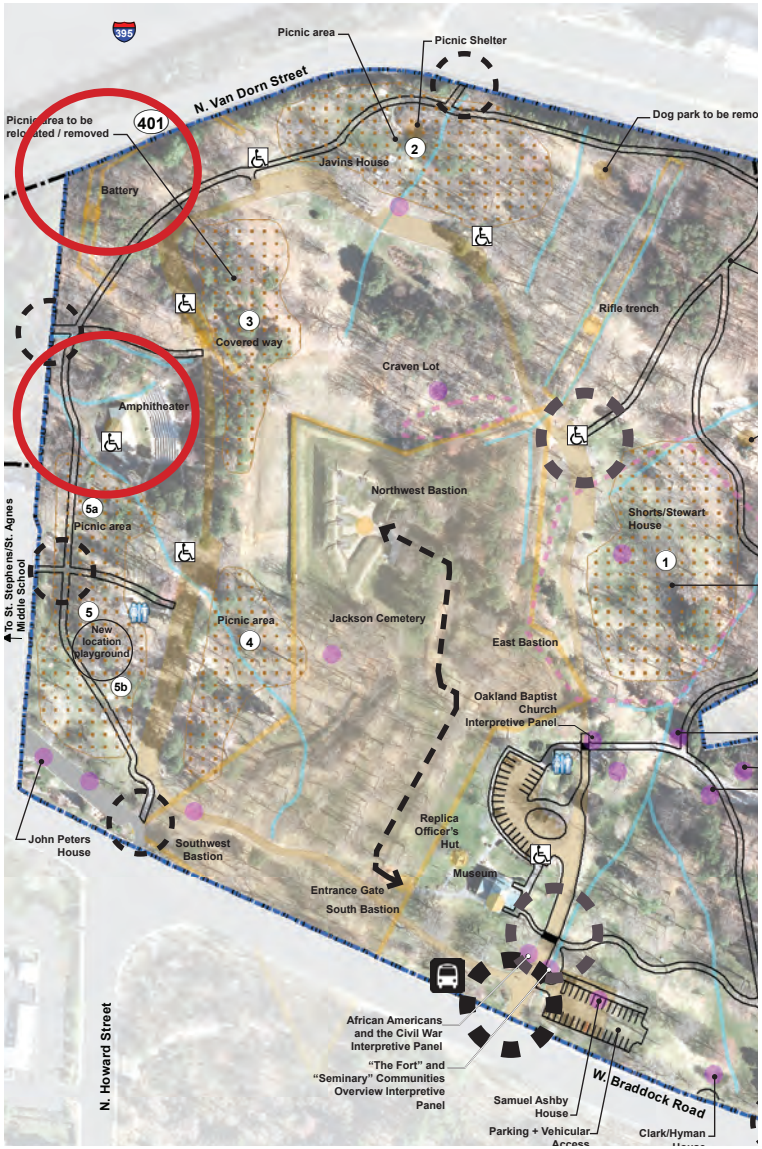
- Monitor the area monthly for tree fall, trail blockage, informal paths on earthworks or other cultural resources
- Monitor and remove poison ivy within 10' of each side of the path

Reference to Management Plan

Objective 5.1: Clarify and enhance park circulation and parking

Strategy 5.1.1: Improve pedestrian circulation and safety

Best Practices: Circulation



Locations indicated by red circles

Action: Re-connect athletic fields with the rest of the park

Benefits

- A safe environment for park access and park users

Application

- Increase connectivity in the pedestrian system by connecting all portions of the park

Methods

- Provide a gate between athletic fields and the northwestern portion of the park
- Develop protocols to address access/gate closure when athletic fields remain open later than the rest of the park (fields are lighted and open until 10 PM; the rest of the park closes at dusk)

Monitoring

- Monitor operational issues with different hours

Reference to Management Plan

Objective 5.1: Clarify and enhance park circulation and parking

Strategy 5.1.1: Improve pedestrian circulation and safety

Best Practices: Circulation

Sketch of potential reconfiguration of parking area to better accommodate bus circulation behind the Museum, restrooms on right side of image

Action: Redesign the existing parking area to better accommodate a bus drop-off

Benefits

- A safe environment for park access and park users

Application

- Provide bus drop-offs and turnarounds that do not conflict with parking and pedestrian use of the park

Methods

- Temporarily 'test' concept with barrels and cones to mark circulation patterns
- Evaluate the potential to redesign the gravel parking area behind the museum to better accommodate drop-offs and turnarounds
- Mark the foundation or former location of the barracks with surface materials as part of the new layout design for the parking lot and bus turnaround (similar to that proposed for the Ashby House in front parking lot)
- Consider using permeable materials for paving (existing gravel is heavily compacted) and ADA access

Monitoring

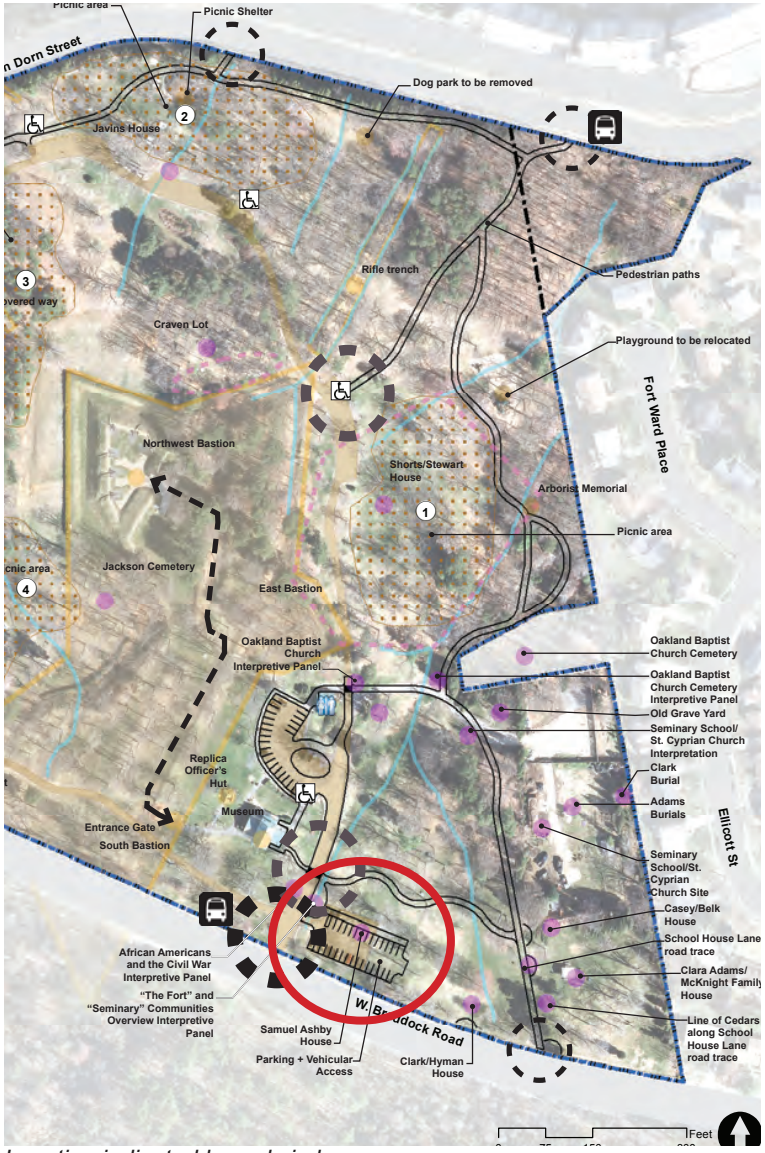
- Monitor 'test' to see if conflicts between users are reduced

Reference to Management Plan

Objective 5.1: Clarify and enhance park circulation and parking

Strategy 5.1.2: Improve bus access and parking (tour and school groups)

Best Practices: Circulation



Location indicated by red circle

Action: Expand the length and reduce width of the gravel parking lot

Benefits

- A safe environment for park access and park users

Application

- Reduce the footprint of the existing parking lot adjacent to West Braddock Road while increasing its capacity and making it ADA accessible and more suited for infiltration

Methods

- Evaluate the possibility to relocate parking spaces removed in the redesign of the museum lot (8-10 spaces to be removed in reconfiguration to accommodate bus turn-around)
- Include interpretation of the Ashby House as part of the parking lot redesign; potentially mark the Ashby House as part of the new layout and surfacing materials of the parking area (similar to the barracks interpretation at the museum parking area)
- Consider using permeable materials for paving (existing gravel is heavily compacted) and ADA access

Monitoring

- Monitor for pavement issues (potholes or loose pavers, depending on the material)

Reference to Management Plan

Objective 5.1: Clarify and enhance park circulation and parking

Strategy 5.1.3: Reconfigure existing parking

Best Practices: Protect Park's 'Soundscape'

Action: Continue to monitor and to limit noise from park activities

Benefits

- An urban oasis, a respite from artificial noise and activity

Application

- Limit artificial (human derived - amplifiers, speakers, radios, etc.) noise within the park

Methods

- Continue to enforce noise restrictions such as the prohibition of amplified noise without a permit (noise had been a major park issue and source of neighbor complaints in the past)
- Identify areas where noisy activities associated with reenactments, gatherings, etc. are inappropriate and where noise-making activities are appropriate such as associated with fort programming
- Map areas where noise should be kept to a minimum (areas for quiet contemplation or for wildlife) use signs, interpretive materials and plants to educate visitors
- Recognize that some sanctioned activities in the park will be loud

Operations and Maintenance Requirements

- Monitor noise limits in the park

Reference to Management Plan

Objective 5.2: Minimize conflicts between adjacent uses both within and around the park

Strategy 5.2.1: Communicate park regulations

Best Practices: Communicate Park Regulations

Action: Better communicate park regulations

Benefits

- A positive and clear message, conveyed creatively, sets a good tone for the park

Application

- Phrase regulations in positive manner; explain why regulations are in place

Methods

- Inventory the location and content of existing regulatory signs within the park
- Coordinate visitor information, orientation and interpretive messages to minimize visual clutter and confusion
- Reinforce resource protection importance through interpretive programming and exhibits
- Use web-and mobile-based 'What is Here' technologies to communicate information regarding resource sensitivity, significance and location
- Enhance sign visibility

Monitoring

- Monitor number and size of signs in the park every three years

Reference to Management Plan

Objective 5.2: Minimize conflicts between adjacent uses both within and around the park

Strategy 5.2.1: Communicate park regulations

Best Practices: Enforcement of Park Regulations

photo courtesy of Sharon Annear

Action: Enforce existing park regulations

Benefits

- Well managed and safe place to be educated and to recreate

Application

- Enforce existing regulations

Methods

- Consistent and proactive enforcement of regulations
- Consider reinstating a ranger staffing on high-use days or time periods

Operations and Maintenance Requirements

- Monitor the effectiveness of regulation enforcement

Monitoring

Objective 5.2: Minimize conflicts between adjacent uses both within and around the park

Strategy 5.2.1: Communicate park regulations

Best Practices: Dog Exercise Area

Action: Remove the off-leash dog exercise area from the park

Benefits

- Remove conflicts between dogs running free and unclear boundaries of the off-leash dog exercise area; clarify rules for dogs in the park—on leash at all times

Application

- Remove the existing off-leash dog exercise area in the park; do not relocate it within the park

Methods

- Hold Public Hearing and advertise intent to close dog exercise area at park
- Remove sign indicating off-leash dog exercise area in park
- Place signs welcoming leashed dogs to park

Monitoring

- Monitor dog use of the park

Reference to Management Plan

Objective 5.2: Minimize conflicts between adjacent uses both within and around the park

Strategy 5.2.2: Remove the off-leash dog exercise area location and facility

Best Practices: Long-term Facility Relocation

Location indicated by red circle

Action: Relocate Group Picnic Area # 3, avoiding any culturally sensitive sites or resources

Benefits

- Opportunity to preserve and interpret Civil War resources: the 'Outer Battery' and the 'Covered Way'

Application

- Removal of recreation use from culturally significant site

Methods

- Identify an alternative location for the group picnic area where cultural resources will not be adversely affected
- Relocate the existing group picnic area (may be a temporary relocation - need for more permanent relocation is dependent upon archaeological research results and if picnic area and interpretation of potential findings can be successfully combined)
- If long-term, find an alternative site within park for permanent relocation that does not intrude on other culturally sensitive sites (for example the Shorts property)
- Refer to City of Alexandria Recreation, Parks and Cultural Activities 2013 Picnic Season Summary for utilization of specific picnic areas within Fort Ward Park—in 2013 Area # 3 had the lowest reservation count of the group areas within the park and Area #5 received the third largest number of reservations of the five sites

Monitoring

- Monitor impact on cultural resources

Reference to Management Plan

Objective 5.2: Minimize conflicts between adjacent uses both within and around the park

Strategy 5.2.3: Relocate and enhance park facilities (long-term) to better serve the public and to protect the park's resources

Best Practices: Long-term Facility Upgrades

Action: Adopt design standards for all park furnishings and signs

Benefits

- Accessible facility for park visitors
- Park identity enhanced through common vocabulary of site furnishings

Application

- When replacing site furnishings, ensure that replacement fixtures are accessible and meet ADA standards

Methods

- Develop strategy for site furnishings replacement, extend and compliment current City replacement policy—grills, picnic tables, benches, signs, etc.
- Cycle furnishing upgrades
- Adopt standards for site furnishings and signs for future installation (quality, style, ADA compliant, etc.)

Monitoring

- Assess site furnishings every five years

Reference to Management Plan

Objective 5.2: Minimize conflicts between adjacent uses both within and around the park

Strategy 5.2.3: Relocate and enhance park facilities (long-term) to better serve the public and to protect the park's resources

Best Practices: Long-term Facility Upgrades

Action: Evaluate upgrade or removal of the existing amphitheater

Benefits

- Accessible facility for park visitors or removal of the amphitheater with space dedicated to an alternative use

Application

- Feasibility study to upgrade the existing amphitheater; ensure that the renovated amphitheater is fully accessible

Methods

- Develop a cost-benefit analysis of improving amphitheater to meet ADA standards, performance standards, electrical needs and furnishings upgrade
- Develop and execute a feasibility study
- Evaluate additional supporting infrastructure needs should the amphitheater be upgraded (parking, loading, restrooms, etc.)
- Evaluate the impact on the site if the study concludes that the amphitheater should be removed
- Evaluate the impact on the performing arts spaces in city, etc. if amphitheater is changed or removed

Monitoring

- Monitor compliance with current ADA standards (current evaluation states all but parking is compliant)

Reference to Management Plan

Objective 5.2: Minimize conflicts between adjacent uses both within and around the park

Strategy 5.2.4: Evaluate the effort required to upgrade and improve the amphitheater for more active use

Best Practices: Long-term Facility Upgrades

Action: Repair and evaluate the upgrading of the existing restroom located on the western side of the park

Benefits

- Accessible and upgraded restrooms

Application

- Feasibility study to upgrade restrooms

Methods

- Repair roof regardless of future of restroom facility
- Develop and execute a feasibility study on restroom improvement
- Develop a cost-benefit analysis of improving or replacing restrooms to meet ADA standards, performance standards, electrical needs and furnishings upgrade
- Evaluate additional supporting infrastructure needs should restrooms be upgraded (water, sewer, electrical capacity, etc.)

Monitoring

- Annually assess condition of facility

Reference to Management Plan

Objective 5.2: Minimize conflicts between adjacent uses both within and around the park

Strategy 5.2.5: Replace, upgrade or remove failing facilities